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Mounted Archers of the Steppe 600 BC–AD 1300

tony Karasulas • Illustrated by Angus McBride

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ANTONY KARASULAS has a BA in Ancient History from the University of New England. He is currently studying Persian and improving his Ancient Persian in preparation for starting work on his doctoral thesis. His main area of interest is the field of Iranological and Central Asian studies with an emphasis on steppe and Central Asian warfare. Antony lives and works in New South Wales, Australia.

ANGUS McBRIDE is one of the world's most respected historical illustrators, and has contributed to more than 90 Osprey titles in the past three decades. Born in 1931 of Highland parents but orphaned as a child, he was educated at Canterbury Cathedral Choir School. He worked in advertising agencies from 1947, and after national service, emigrated to South Africa. He now lives and works in Cape Town.

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Antony Karasulas · Illustrated by Angus McBride
Consultant Editor Martin Windrow

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MOUNTED ARCHERS OF THE STEPPE 600 BC–AD 1300

INTRODUCTION

For millennia, population flow in Eurasia has tended largely to be either from east to west, from the vastnesses of the eastern steppe to the rich and arable lands of Europe and the Middle East, or from north to south, from the harsh northern Mongolian steppe to the rich farmlands of more temperate China. With these migrants, who were sometimes invaders, came technical developments and new methods that had their origins in the nature of steppe life. Some of these developments were to dramatically alter aspects of life in the West, the Middle East, and China, most noticeably in matters of warfare, the conduct of which was certainly affected by the intrusion of steppe dwellers. The question that naturally arises is what exactly made these nomadic herders of animals so effective militarily, and how can we account for their having often dominated professionally led, experienced armies? It has been suggested that the steppe dwellers were simply more ferocious and warlike, being 'barbarians' after all. Fortunately, more serious possibilities are available, centreing on advanced military methods and technology developed on the steppe, and aspects of steppe life that preconditioned these people to military successes.

This illustration is from a 14th-century copy of the classic Persian romantic history *Shah Nahmeh* by Firdowsi. The rider is shooting at full gallop. The mounted archer's technique of releasing his arrow when the horse is in full flight can be seen.

In this book the nature of those fundamental features of lifestyle and warfare that first occurred on the steppe will be considered, to see in detail just exactly what advantages the steppe horse archers had when they went to war. The three major features of the steppe warrior's life were archery, horsemanship, and pastoral nomadism. These are the building blocks of steppe mounted warfare. Furthermore, all three of these features were ubiquitous, for while it is true that many peoples have used horses, bows, and the combination of the two, only the nomadic steppe people consistently did so. Although at times infantry certainly played a role in steppe conflict, and in some steppe societies mounted lancers were much in evidence, the history of steppe warfare is epitomized by the mounted archer and, even if occasionally mounted archers were not the major military force, they were at all times a major feature of steppe warfare. To consider the steppe warrior is of necessity to consider the nomadic mounted archer.

The time frame covered in this discussion starts with the earliest evidence of horse use, c.4000–3500 BC, up to the Mongol and Turkish invasions of the 12th and 13th centuries AD. However, this is not a comprehensive history, but rather a look at pivotal shared characteristics, features that remain as true of the later as of the earlier steppe peoples. As the Byzantine emperor Maurice put it in his *Strategikon*, 'the [steppe] nations are one, so to speak, in their mode of life and in their organisation...'. While all steppe nomads, whatever their particular tribe, were 'cut from the same cloth', and therefore exhibited similar features and military skills, it would be a mistake not to see the period covered as extremely complex culturally and militarily. It is convenient, therefore, that the three areas of study mentioned above can effectively be used to 'sample' the period in question, one otherwise far too extensive for a work of this length. Any discussion of the phenomenon of the steppe warrior requires that all three areas be discussed, and they are consistently relevant across time and cultures.

EURASIA, CENTRAL ASIA AND THE STEPPE

Eurasia represents the Earth's largest contiguous landmass, including all of mainland Asia and Europe, with Central Asia and the steppe lands in between. Central Asia covers a substantial part of the Eurasian continental mass, incorporating most of the Chinese provinces of Inner Mongolia and Sinkiang, southern Siberia, and Mongolia in the east, and continues westward eventually merging with Eastern Europe. The regions in between include Uzbekistan, Turkmenistan, Kazakhstan, Kirghizstan, Tajikistan, the northern and eastern coasts of the Caspian Sea, and parts of Afghanistan and Iran. Throughout this broad area there are extensive mountain ranges, forbidding deserts, and most importantly for the history of the nomadic mounted archer, oceans of grassland – the steppe. This is a comprehensive and complex region.

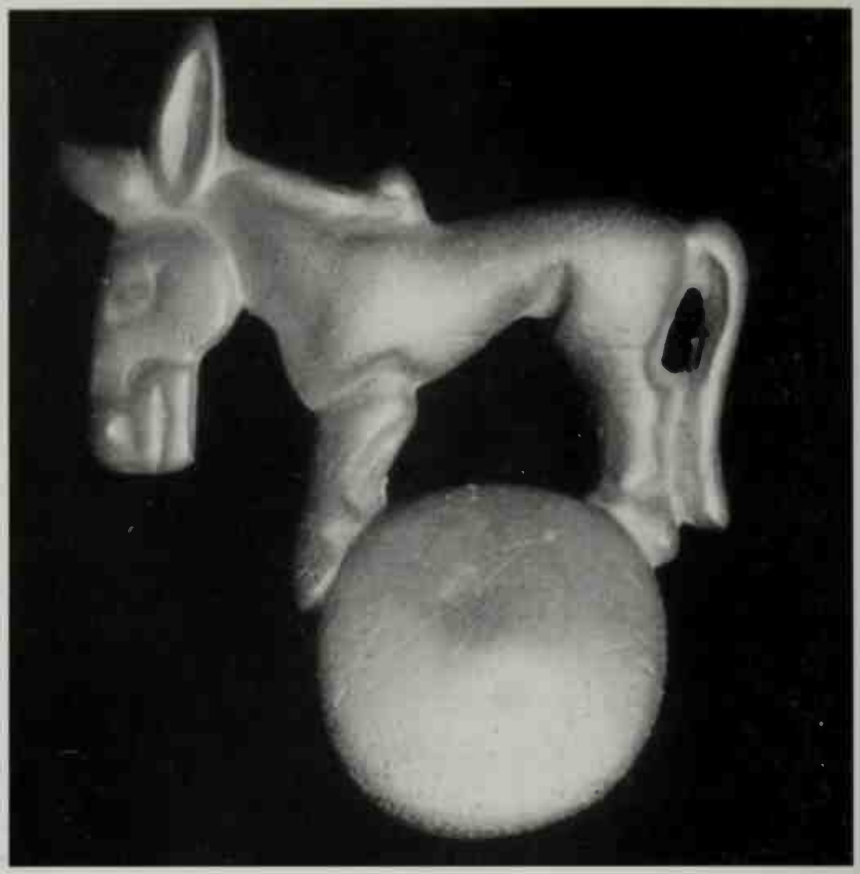
The deserts are important to the history of this region, as they are a natural barrier to free movement and so have helped to define the viable corridors of passage for peoples and cultural influences. At different times various oasis states formed in the region, which further

On this map of Eurasia, the dark band across the centre of the continent is steppe, a continuous expanse of grassland.

created political barriers, or alternatively offered cultural and trade exchange possibilities. The deserts and the mountain chains that bisect Central Asia help to define the east–west routes of the nomadic peoples. However, although the deserts and mountains were crucial to cultural development in the region, it is the steppe that most interests us here – for the steppe was the super highway of the nomadic peoples.

The steppe, a vast sea of grass, is over 5,000 miles (8,000km) long (running unevenly but consistently from Manchuria to Hungary) and up to 600 miles (1,000km) wide – it is an immense geographical feature. It overlaps the borders of many Central Asian countries, then it spills out into Europe, and includes much of European Russia, most of Ukraine, the great Hungarian plain and most of Transylvania, and much of the lands around the Black Sea, including in the past some of Anatolia.

The steppe's borders are fixed to the north by an extensive band of forest, the *taiga*, which spans the entire landmass, and to the south by deserts such as the Gobi and the Takla Makan, and mountain ranges, such as the Tien Shan and the Pamirs. A glance at a landscape map of Eurasia shows a more or less continuous band of deserts stretching from the Gobi to the Caspian Sea. Above this is a band of steppe, and above that a band of unbroken *taiga*. If one imagines these bands as three even stripes, the northern, an impenetrably dense forest, the southern, desert wastelands and mountain ranges, then the central stripe of grassland looks quite hospitable indeed. And, more than that, the seemingly endless expanse of grass is very suitable to the needs of sheep and cattle herders, herders who were of necessity mobile, as they followed pasturage for their stock, and for whom feed for their animals lay always before them, into the distant west. As a conduit of nomadic peoples,



moving perpetually further west, the steppe was ideal.

The steppe can be separated into western and eastern parts. Starting from Europe, the western steppe begins on the Hungarian plain and, including Transylvania and parts of Bulgaria, extends to eastern Russia, where it passes between the Caucasus Mountains and the Ural forests, until it meets the mountains of the Pamirs, the western Tien Shan, and the Altai. These are more inconveniences than barriers, and do not fully cut the steppe in two. The eastern steppe has a northern and southern expanse, on either side of the Tien Shan, which joins up in Mongolia, and continues to Manchuria, having passed to the north of the Gobi Desert. The eastern steppe is topographically higher, contains more areas of desert, and has a harsher climate than the western part. Also, in the east, the steppe is more sharply defined from the cultivated lands of China, whereas in the western steppe the demarcation is gradual and haphazard.

By far the most inhospitable part is the eastern steppe, which is higher and colder than the western, with greater variations in seasonal weather. Most steppe cultures show signs of originating in the eastern steppe, and not unnaturally they have tended over time to move west, to where the climate is more hospitable and the communities bordering the steppe were better off. In the eastern steppe the grasslands are frequently buried under snow and ice during the long, bitterly cold winters. The western steppe, on the other hand, has less extreme winters and is not broken up by deserts and mountain chains. Riding out from the east the experience is that, once past the bottleneck created by the Pamirs, the western Tien Shan and the Altai, the steppe opens out into an unbroken ocean of long grass, with a considerably more pleasant climate. Once passed the next, less pronounced, bottleneck between the Caucasus Mountains and the deep Ural forests, the western steppe fans out into the rich Russian and Hungarian plains, which offered easy access to the wealth of Europe's fertile valleys and plains. The very

ABOVE LEFT **Scythian arrowheads (6th–4th century BC). These are found in large numbers all over the steppe, and were dispersed as much by the movement of people as by trade. (Author's collection)**

ABOVE RIGHT **This equestrian plaque shows an ancestor of the Przewalski horse, recognizable by the shape of his head. Southern Siberia, 5th–4th century BC. (Courtesy of the State Hermitage Museum, St Petersburg)**

A Mongol rider from a Ming Dynasty (AD 1368–1644) Chinese painting. He has his right sleeve down to keep it from interfering with his archery.

nature of the steppe, and its ever-gentler climate and wider grasslands as one moves west, virtually pulled the nomadic cultures ever westward, toward the settled lands of Central Asia and Europe. One might say that nature conspired to bring the mounted archers of the eastern steppe into the sedentary lives of the western states.

A similar, north–south process occurred in China. The Great Wall, in its various incarnations, was built to keep the nomadic horsemen out of the fertile plains of China. Moving south from the harsh Mongolian steppe toward the warmer climates and the richer grasslands of the south must have seemed every bit as natural as drifting toward the west. Throughout the history of the steppe both movements were common, some tribal groups, such as the Hun, apparently first moving south from the Mongolian steppe into conflict with China, before then being driven out to the west and on into Europe proper, others remaining largely in either the western or eastern parts of the steppe corridor.

HISTORICAL SPECTRUM AND TRIBAL GROUPS

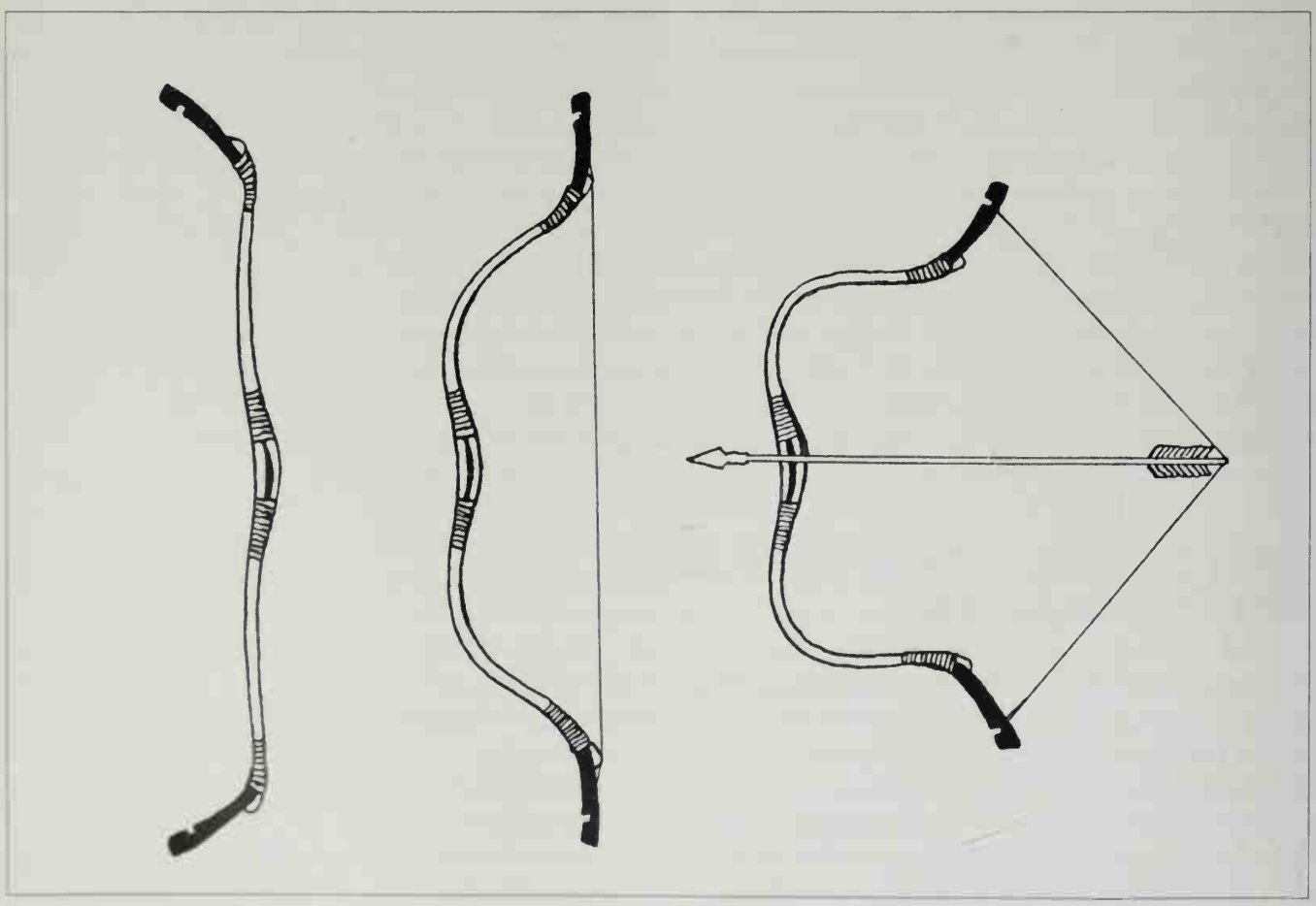
The steppe produced numerous cultures, tribes, and confederations, which appeared to the outside world in waves of migration over time, or as sudden invaders. These peoples can be broadly grouped by their languages – Indo-Iranian, Turkic, and Mongolian. The earliest steppe peoples we hear of spoke Iranian languages; this group includes the Cimmerians, Scythians, Saka, Sarmatians, Massagetae, Iazyges, Roxolani, and Alani. They were followed in time by peoples who spoke Turkic

languages, the Hun, Avar, Khazars, Uzbeks, Bulgars, Cumans, Baskir, Pechenegs, and the Magyars (who linguistically were not Turkic, but who were a highly 'Turkified' people speaking a Finno-Ugrian tongue). After them came the Mongols, themselves followed by various Turko-Mongol groups, such as the armies under Tamerlane, and the Ottoman Turks.

The people these various nomadic cultures interacted with included the Chinese, the peoples in Central Asian settlements such as Sogdia, Bactria, and Kushan, the various Caucasian peoples, such as the Urartians, the Armenians, the Persians, the classical Greeks, the Romans, and later states such as Byzantium and medieval Russia.

On the steppe the number of tribes, tribal groups, confederations, language groups, cultures, and so on, has been over time truly very complex. For the purposes of this work we need only mention some key players, as the underlying concept stressed will be one of commonality. The different steppe peoples shared certain qualities over time, even if they were quite differentiated by language, culture, and place of origin – all of them were, or had originally been, nomadic pastoralists; that is, they were mobile animal herders who followed their livestock from place to place. Their existence revolved around horses, and riding horses was part of their daily lives; all were renowned for their mounted archery skills.

The first such peoples of whom we have any real knowledge are the Scythians, who appear in much of Greek literature, most importantly in *The Histories* of Herodotus. Herodotus also mentions the much earlier



The design of a Mongolian bow. The *siha*, or limb extensions, are set at the most extreme angle of all composite bows.

Cimmerians, who he claims were displaced by the Scythians. After the Scythians, historically we next encounter the Sarmatians, the *Sauromatae* of Herodotus (Herodotus, IV.21), a related people who were known to the Greeks, but whose impact was more on the Roman world of the 2nd and 3rd centuries AD. Both groups of steppe peoples were speakers of Iranian languages, and were closely related to the Medes and Persians, who themselves originated on the steppe. The Sarmatians came as aggressors, and finally occupied all Scythian lands. Among these broad groupings, 'Scythian' and 'Sarmatian', there were many sub-tribes, clans, and federations, such as the Saka, the Aorsi, the Roxolani, the Alani, the Massagetae, and the Iazyges, to name a few of the major ones. For Greeks the name 'Scythian' often covered the many different related peoples, and similarly 'Saka', the name used by the Persians for all Scythians (Herodotus, VII.61), was probably the name of one leading tribe.

Sarmatian tribes came into frequent conflict with the Romans, although many were employed by the Romans as mercenaries. Vespasian first employed Sarmatian cavalry in AD 69, and heavy armoured cavalry was a feature of the Roman army thereafter. Marcus Aurelius defeated the Sarmatians, and around AD 175 posted many Alani and Roxolani as auxiliaries to outposts such as Britain's northern border.

The Sarmatians were themselves eventually overwhelmed by the arrival of the Germanic Goths. The Germanic peoples were not pastoralists, and essentially can be considered transient passers-through of the western steppe – soon enough they too were forced to move on by the arrival of the Hun. Many Sarmatians, principally Alannic tribes, escaped the Hun by joining with the Germanic peoples in their retreat into Western Europe, and for some eventually on into North Africa.

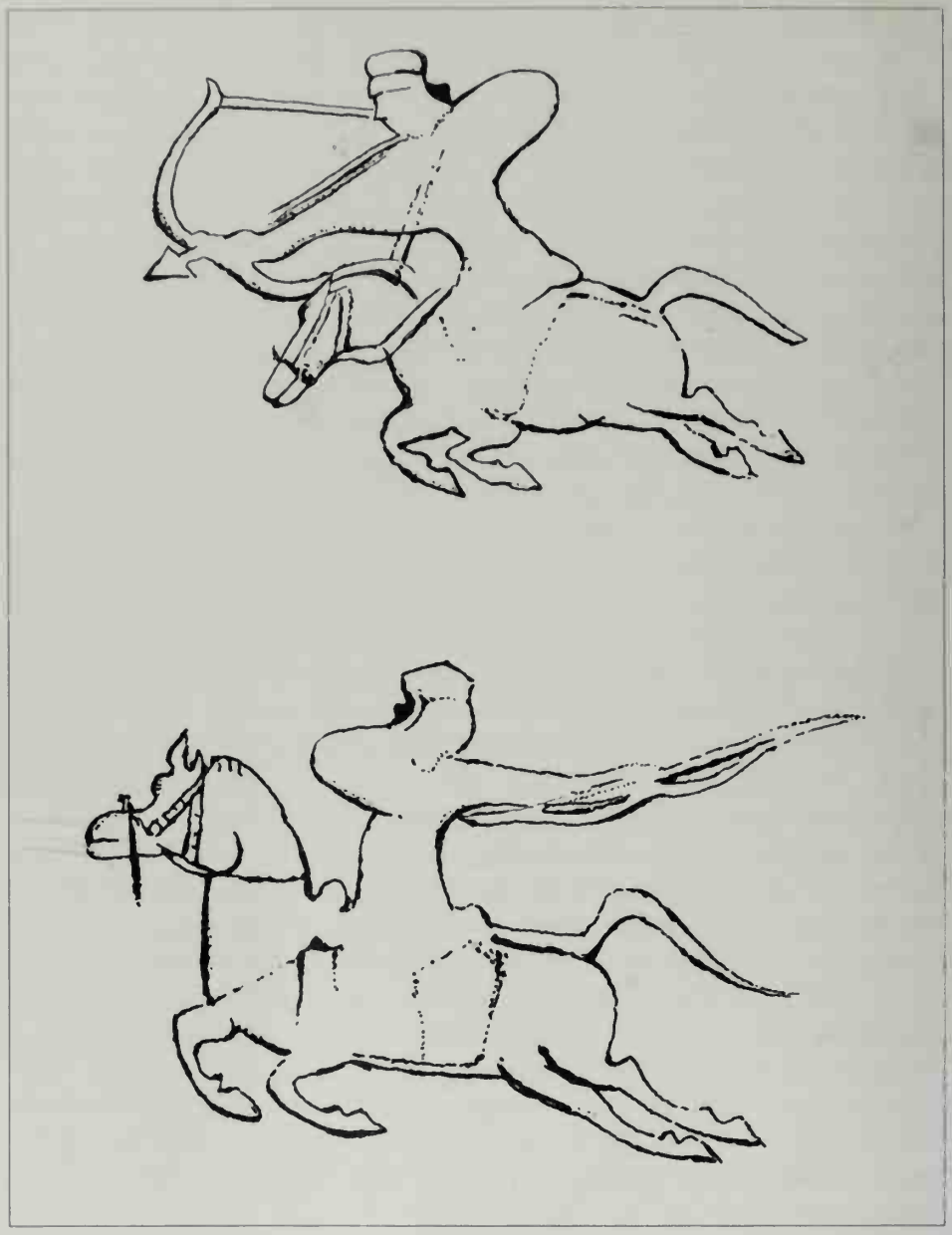
The Hun are somewhat mysterious in origin, perhaps originating as the Hsiung-nu of ancient Chinese texts. They appear to have been a Turko-Mongolic federation of tribes, perhaps a group of tributary tribes led by a Turkic elite. Of all the steppe nomads who invaded Europe they left the greatest impression, for their ferocity and, until the death of their leader Attila and the subsequent collapse of their power, their seemingly unstoppable advance. They left little else, however, except perhaps for their bow, which was the best and most efficient to date and widely copied by other steppe tribes. The Hun also caused the Roman tactical system to transform from being infantry based to being cavalry based.

Within a generation or so after the Hun came the Avars, similarly fierce and effective mounted warriors. Also Turko-Mongolic, they are thought to have been a part of that far eastern people the Chinese called *Juan Juan* (meaning 'nasty wriggling insect'!). The Avar, like the Hun, started with raiding as their *raison d'être*, and they excelled at it. However, unlike the Hun, they were not simply raiders but became well-developed state builders. Being problematic neighbours for a long time, they had a great impact on Byzantine military thought and practice. The Byzantines ended up copying their cavalry methods, and from the Avar they got the wooden frame saddle, the stirrup, a stronger bow than they had previously used, and their loose-fitting cavalry uniforms.

Following the Avar there emerged a number of other similar Turkic peoples or confederations, such as the Khazars, Uzbeks, Bulgars, Magyars, Ongguts, Pechenegs, Seljuk, Turkmen, Kazakhs, Kipchak, Tatars, Ottomans, and others. Finally, for our given time period, there

TOP **This mounted archer, found on the wall of a Han period (206 BC–AD 8) tomb, is firing at game in a celestial hunt. Note that his horse is airborne as the archer prepares to release his shot.**

BOTTOM **This mounted archer, from the same Han period tomb, shows an archer who has just released his arrow. His bow is canted forward, showing the archer's technique of applying a small amount of downward twist to the bow hand at the time of release.**



were the Mongols, the greatest and most successful steppe invaders of them all. Originating in the area around the northern parts of modern Mongolia and southern Siberia, they were distantly related to the Turkic people. They were to come, in the 12th and 13th centuries AD, in such vast numbers, and with such highly disciplined and well-organized armies, that they literally swept all before them. After the Mongols a number of powerful Turko-Mongol groups emerged, or re-emerged, from the steppe, including the Kipchak, the armies of Tamerlane, and the Ottomans.

In the regions of the eastern steppe there were Xiongnu (Hsiung-nu), Uighurs, Yuezhi, the Eastern Hu, Xianbei, Tokharians, Türk, and of course also the Mongols. However, most emphasis in this work is placed on those tribes and peoples that interacted with Western and Middle Eastern sedentary powers, though events at the eastern extremity of the Eurasian steppe will appear occasionally. Many of the nomadic peoples of the western and eastern steppe were the same, merely having different names in the local records.

CHRONOLOGY

c.3000–4000 BC
Horse first domesticated on the Ukraine steppe

c.1500 BC
Composite bows begin to appear

7th century BC
Cimmerians and Scythians appear in historical records

6th century BC
Darius unsuccessfully invades 'Scythia'

4th century BC
Sarmatian tribes begin to displace the Scythians

3rd century BC
Parthians begin to overcome the Seleucids

2nd century BC
Parthians control most of Persia, Media, Mesopotamia, and Bactria

1st century BC–3rd century AD
Rome and Parthia in frequent conflict; Parthia prevents Roman advance into Middle East

1st century BC
Parthians destroy the army of Licinius Crassus
First Sarmatian incursions into Roman territory
Sarmatian mercenaries frequently fight for Rome

2nd century AD
Sarmatian Roxolani, Iazyges and Alans in conflict with Rome at different times

3rd century AD
Sarmatians subdued by Rome
Sassanian Persians rise to power over the Parthians

3–4th century AD
Rome and Sassanian Iran in frequent conflict

4th century AD
Huns invade Iran

5th century AD
Huns occupy Hungary and invade Europe
The Hun composite bow is widely copied
Germanic and Alannic tribes pour into Western Europe to escape the Hun

5–6th century AD
Turks rise to prominence on the eastern steppe

6–7th century AD
The Avars subdue the Slavs and come into conflict with Byzantium
The Avars introduce the high pommel saddle and stirrups to Europe

7–8th century AD
The Khazars successfully prevent Muslim Arab movement into south-eastern Europe

9th century AD
The Magyar occupy Hungary

9–11th century AD
Turkic nomad 'states' forming west of the Urals, including Kipchaks, Kirgiz, Kazakh, Oguz, and others

10th century AD
Pechenegs begin raids into Russia

11th century AD
Kipchaks (Cumans) begin raids into Russia, sack Kiev

12th century AD
Cumans control much of Russian steppe

13th century AD
Rise of the Mongol empire, invasion of Hungary

14th century AD
Russia dominated by the Mongolian 'Golden Horde'

NOMADIC LIFE

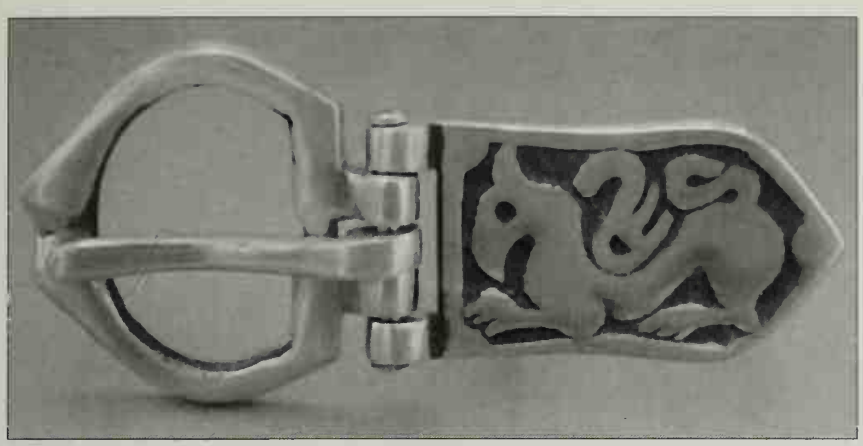
Our view of nomadic pastoralism in ancient and medieval times has been coloured by the impressions left for us by chroniclers of the past, for many of whom the steppe dwellers were predators. Certainly it is reasonable to view nomadic pastoralism and sedentary agrarianism as polar opposites. However, like poles, the two extremes were actually in many ways interrelated, or at least interdependent, if only in terms of trade and cultural transmission. Another mistaken view commonly held is that pastoralism is somehow primitive, more so than agrarian pursuits. In reality pastoralism is a more recent development in human history, and is in fact a complex adaptation to an environment of extreme climatic variation.

Sedentary societies rely on political and climatic stability for success. Wars and weather extremes such as droughts and floods ruin the land, the crops, and the manual labour supply. For example, Rome, just as Greece before her, was built on the backs of her farmers, and to a lesser

degree on her traders. Greece and Rome of the ancient and classical world were states, cultures, built on stability – which is plainly visible even now. The steppe cultures, on the other hand, left us no fine stonework remains, no established literature, no law codes, no high cultural attainments. Nor should we expect to find such markers to their passage, for theirs was a life developed around change, and around a permanent struggle with nature. Consequently, the steppe pastoralist had a very different world-view from that of their sedentary neighbours. As William of Ruisbroek noted, in the mid-13th century, the steppe dwellers '...attach little importance to the things of this world. They live on earth as if they were not living there. They do not cultivate the soil and build no houses, they are as it were only strangers in transit, and the living feeling which pervades their innermost being, expresses itself in long journeys.' (William of Ruisbroek, *Travel to the Mongolians*)

To understand the nomad and his way of life it is first necessary to clarify what a nomad is. Though there are different kinds of nomadism, in the current context nomads are people who follow their animal herds, as they search for food and water. By definition a nomad is a pastoralist, is connected year round to his or her herds, moves periodically as the demands of the herd or climate dictate, and as a result of all this in ancient times generally belonged to no fixed political state. Historically, nomadic steppe peoples were tribal or clan-based entities, and their leaders were individuals who achieved status by their personal abilities. Such nomadic peoples lived in small groups of families, presumably of the same clan, moving together in what is known as a herding camp. This arrangement was loose, and groupings fluctuated in size as families moved from one group to another. The one

Based on a Song Dynasty (AD 960–1229) Chinese scroll, this Mongolian rider has a hunting hawk on his right arm. Hunting with birds was a popular pastime among the Mongolians. Note his hourglass arrow quiver and unstrung bow in cloth bag. He appears to have a bedroll tied to the back of his saddle.



ABOVE RIGHT **One of the belt-stiffening decorative plates from an Avar warrior's belt (6th–8th century AD). Variations of the 'animal style' of art, first seen with the earlier Scythians, remained popular on and near the steppe for millennia. (Hungarian National Museum; photograph courtesy of Tamas Hortsin)**

ABOVE LEFT **Buckle decorated in the 'animal style', from the same belt as the picture on the right. The Avars liked even their most functional items to be highly decorated. (Hungarian National Museum; photograph courtesy of Tamas Hortsin)**

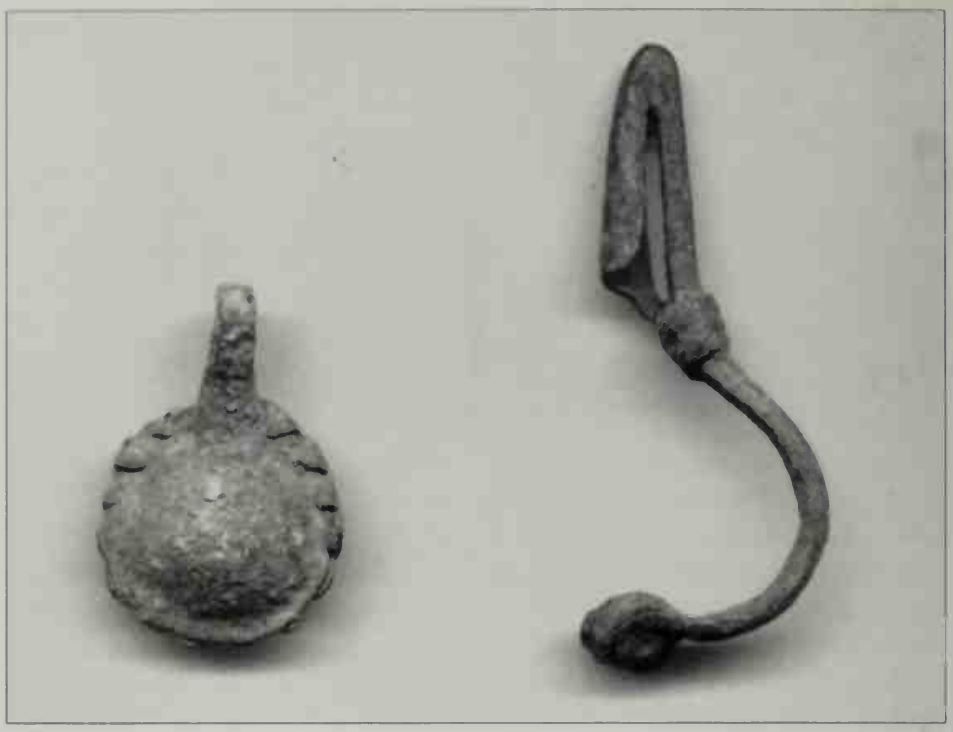
absolute was that when new pasturage was required the groups moved on – all of life revolved around the needs of the herds, a mixture of sheep, horses, cattle, goats, camels, or yaks. Unlike the transhumant (*yaylag* in Turkish), who move between fixed summer and winter camps, the pastoralists, once on the move, followed no fixed route or itinerary.

The Scythians and Sarmatians, as either fully or semi-nomadic pastoralists, operated in a large territory, one without measurable borders – the *immensum extentas Scythiae solitudines* of Ammianus ('The unending wastes of Scythia', Ammianus, XXXI.2.13). They did have a sense of their individual range, and when an area they exploited was intruded upon they might consider this an invasion of sorts, however they did not own the land, and it was most certainly not transferable. They usually did not have well-established summer and winter camps, although some sites that offered good water or winter shelter might be returned to regularly now and then. The lack of a sense of personal property regarding the land is clearly demonstrated by the Scythians in Herodotus' account of Darius' invasion of 'Scythia', the Greek name for the steppe-lands. Darius was soon taught by the Scythians that he could not conquer a people by occupying their territory if they did not live in fixed sites, and did not feel personal ownership of the land (Herodotus, IV.46). In reply to Darius' question about why he would not stand and fight, the Scythian king Idanthyrsus is reported by Herodotus to have said:

> 'It is thus with me, Persian: I have never fled for fear of any man, nor do I now flee from you; this that I have done is no new thing or other than my practice in peace. But as to the reason why I do not straightway fight with you, this too I will tell you. For we Scythians have no towns or planted lands, that we might meet you the sooner in battle, fearing lest the one be taken or the other be wasted.' (Herodotus, IV.127)

Essentially there was nothing for the Scythians to defend, and they knew that eventually the Persians would have to leave, as there was nothing to be gained by them in the steppe.

While the settled peoples of the lands that bordered the steppe also kept some animals, herds were only an addition to crop growing. Pure pastoralists, however, lived almost entirely off their herds, with hunting the major supplementary survival activity. However, nomadic societies did not



Scythian cloaks were fixed by a fibula, or brooch, such as this 4th-century BC example on the right. The item on the left appears occasionally in Scythian graves, and is thought to be a good luck pendant, perhaps originally containing something with magical properties. (Author's collection)

live in isolation, commonly trading animal products with settled peoples for grain, textiles and manufactured goods. They also acquired quality weapons and, as theirs was a simple and harsh life, things of beauty and luxury goods for their own sake. The Scythians, for example, were great lovers of Mediterranean wine, which they obtained by trade from the Greeks in the Black Sea colonies. Strabo mentions the nature of such Greek–Scythian trade when he describes Tanais, a Greek Black Sea colony:

> 'It was a common emporium, partly of the Asiatic and the European nomads, and partly of those who navigated the lake from the Bosporus, the former bringing slaves, hides, and such other things as nomads possess, and the latter giving in exchange clothing, wine, and the other things that belong to civilised life.' (Strabo, *Geography*, XI.2.3)

The importance of such trading opportunities cannot be underestimated, and their absence could be deeply felt. The Huns, after rampaging across Europe under Attila, eventually sued for peace with Rome, mostly to achieve a resumption of their lost trading rights.

In the not uncommon times of hardship, during droughts, severe winters, or disease among a herd, instead of trading nomadic pastoralists went raiding to obtain what they needed – a phenomenon called 'the trade/raid syndrome.' At first, resorting to military superiority was purely a survival strategy. However, so much could raiding become a necessary means to survival that when Grigoris, the 4th-century Bishop of Scythia, tried converting Sarmatian tribes, admonishing them to mend their ways, they were bemused; their leader said, 'suppose we cease to rob and plunder the goods of others; on what then shall we live?' For some, just like the Hun mentioned above, raiding was not only an occasional necessity but became a well-ingrained habit, for as they became more skilled at raiding they increasingly gave

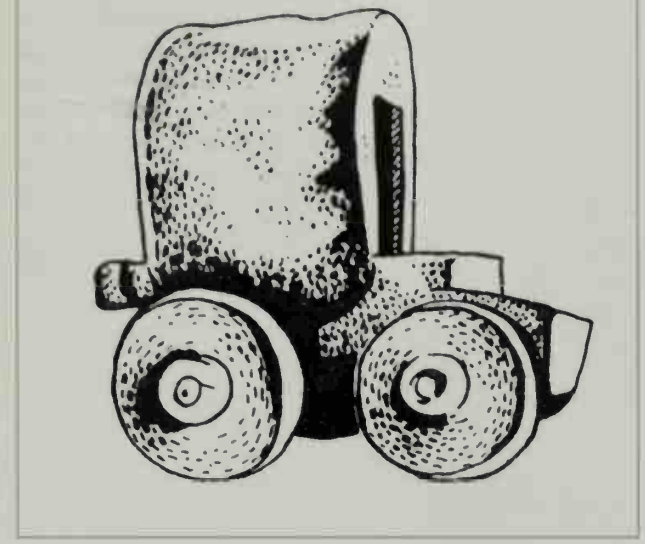
These Magyar (9th–12th century AD) stirrups have been decorated in gold. The Magyar were tribes of Finno-Ugrian stock heavily influenced by contact with Turkic tribes, and inheritors of much of the Avar domains. (Hungarian National Museum; photograph courtesy of Tamas Hortsin)

up any attempt at supplementing their subsistence in other ways (Ammianus, XXXI.10–12). In the case of the Huns and the Avars, while remaining essentially herders, these inclinations led to a permanent state of raiding, and a drive to ever-greater conquests – indeed, the Avar power-base in Hungary has been called a 'robber state'. Their herds, except for horses, became largely supplementary.

However, in their horse-centredness also lay a potential weakness, one thought by some to be at the heart of the failure of the Hun to leave a more lasting stamp on Europe. Raiding and wandering require a good supply of horses, and horses need much grass, but when the Hun reached Europe in the 5th century they would have found grazing land beyond Hungary rare. Their power base in grass-rich Hungary was their last staging post for forays into Europe, and after their unsuccessful large-scale raid deep into Western Europe, ending in defeat near Troyes in AD 451, they inevitably returned to the Hungarian plains.

A generation after the Hun, the Avars, on the other hand, developed a much longer-lasting presence on the eastern edge of Europe, principally because they kept strong links with peoples deeper in the steppe who could supply horses. They restricted their main activities to consolidating their hold on the Hungarian grasslands, only raiding further afield when it suited them. By this method they remained an effective and powerful long-time threat, a threat that Byzantium had to take very seriously, and which led to the Byzantines adopting many aspects of steppe warfare. At the other extreme of Eurasia, the perennial nature of the nomadic threat also caused China to adopt nomad-like cavalry methods and equipment – their foes were in every essential way the same problem as the Huns and Avars were for the west.

The pastoral way of life was essentially the same from one end to the other of the 5,000 miles (8,000km) of steppe corridor, a life on the move, at the mercy of the elements. The nature of the life of a pastoralist was always one of hardship. With extremes of weather, the steppe lands, especially the eastern parts, have always been a harsh environment. The western steppe, though climatically milder, was still a harsh place by sedentary standards. Indeed, Strabo noted that the western steppe



The early steppe people are recorded as having wagons in which they lived, which gave them the mobility needed for their nomadic lifestyle. This illustration is of a 4th–2nd century BC Scytho-Sarmatian clay model, found in Kerch, Crimea.

(Strabo, II.2.2). And yet the nomads not only survived there, they flourished, albeit not without interruption.

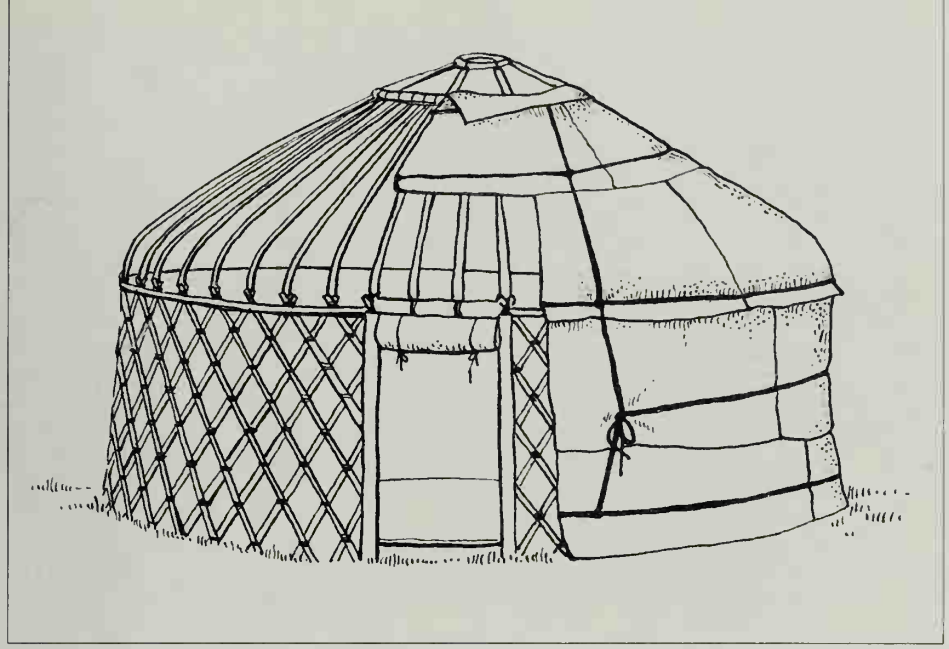
Nomads in the past, very much as today, lived in some form of easily movable shelter. The Sarmatians were said by Ammianus Marcellinus, writing in the 4th century AD, to live in covered wagons. He said of them 'their loved ones, their dwellings, and their poor belongings they pack in wagons covered in bark, and when it pleases them they move without hindrance, wheeling their carts to the place that has caught their interest.' (Ammianus, XXII.8.42) Several hundred years earlier, in the 5th century BC, Herodotus wrote that all the Scythians 'are house-bearers and mounted archers, living not by tilling the soil but by cattle-rearing and carrying their dwellings on wagons...' (Herodotus, IV.46) In these wagons all of life's mundane activities were conducted, '...and in them the husbands have intercourse with their women, and children are born and brought up. These are their dwellings, and whatever place they come to, that place for them is home.' (Ammianus, XXXI.2.18)

These wagons gave great mobility to an entire people, and freed them from ties to any particular piece of land. Such a mobile lifestyle, with home in tow, caused the development of a particular psychology, and one that lent itself readily to migration, invasion, or simply raiding – and the sense of freedom caused some steppe nomads to look down on those tied to the land.

Some steppe peoples lived, not in wagons, but in a form of felt tent called, in the Mongolian variant, a *ger*, in which whole families dwelt (it has been a common mistake to call the nomad's tent a *yurt*, an early Russian error). *Ger*, which are domed, circular, fixed-frame felt tents ranging in diameter from 20 to 40ft (6 to 12m) and accommodating from five to 15 people, are still used across Central Asia. Felt itself was also a steppe invention, being made from the hair or fur of sheep, goats, camels, yaks, and horses, and even now nothing matches felt for wind and cold resistance, as well as durability. The *ger* has a pedigree of more than 2,000 years, and archaeological finds, such as felt and carpets from the Pazyryk Scythian graves, show clearly that the *ger* lifestyle was practiced by the early Scythians. Later nomads, too, such as those described in 1247 by the Franciscan friar C. de Bridia, lived in what can only be a *ger* much like those still in use today. De Bridia wrote:

> 'Their houses are called stations and are of round shape, made of small branches and stakes. At the top they have a round window to let smoke out and light in. The roof and door are of felt. They differ in size and are movable insofar as the size permits them to be carried.' (Bridia, C. de, *Historia Tartarorum*, passage 38)

The *ger* was suitable for all weather, holding up in even the strongest steppe winds. The Mongolian type, similar to all other variations, was



mistakenly referred to as a *yurt*, took only about an hour to put up or take down, and was made of felt over a prefabricated wooden frame. The doors were of felt and rolled up in summer.

built of a lattice-like circular inner wall, called *khana*, to which one end of the roof poles, the *uni*, were attached. The other end of the roof poles curved in to form the roof, attaching to a circular wooden hoop called a *tono* or a *toghona* – through which smoke from the centrally placed fire was allowed to escape. The whole structure was covered in thick felt, *isegei*, for warmth and wind protection, tied down with straps that criss-crossed over the *ger*. The *tono* could be opened and closed from inside by using specially arranged pulley-cords, to either let smoke out or for ventilation and light. The entrance always faced south, harsh winds typically being from the north. The internal layouts were arranged in a fixed manner, the left side being for the women, the right for the men, and the back was the place of honour, for the elderly, for valued possessions, with guests sitting just to the west of this. The arrangement of household goods was also specific and typical. These are both cultural traditions and practical matters, practical because as nomads moved camp frequently the best way to set up and pack up their homes was to have a well-established routine. Everyone in a herding group of *ger* lived in a village-like relationship, and followed the same cultural patterns, and over time such patterns became widely typical of most steppe cultures.

These homes took only an hour or so to set up or take down. When at war, however, the warrior most likely slept in the open. As early as the 4th century BC, the occupants of the eastern steppe wore, as do the Mongols still, a kaftan-like *dehl*, whose design allowed flexibility for horse riding, was large enough to act as a personal covering for nights alone on the steppe, and was voluminous enough to hold various daily items. Similar practical herding and campaign wear was worn by other steppe warriors too. When on active duty the steppe warrior virtually lived in the saddle, perhaps sleeping there too. Ammianus suggests that the Hun were so used to being in the saddle that '...for this reason they are not at all adapted to battles on foot, but they are almost glued to their horses, which are hardy, it is true, but ugly, and sometimes they sit on

The Sarmatians and the Hun, like all other steppe nomads, used fur extensively in their clothing for warmth. This 3rd- to 4th-century item was unearthed near the Yenisei River in southern Siberia. Although a child's coat, it is cut in the same way as the adult version. (Photograph courtesy of the State Hermitage Museum, St Petersburg)

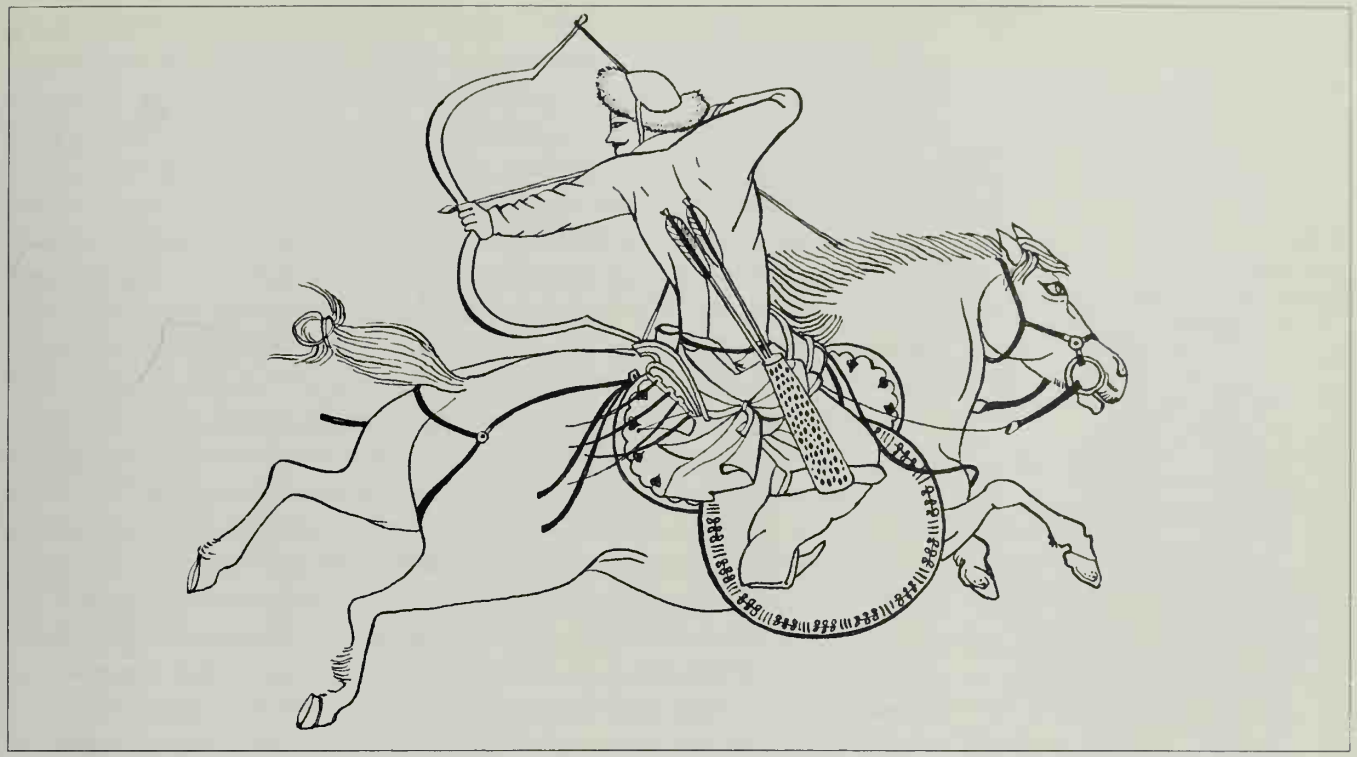
them woman-fashion and thus perform their ordinary tasks. From their horses by night and day every one of that nation buys and sells, eats and drinks, and bowed over the neck of the animal relaxes into a sleep so deep as to be accompanied by many dreams.' (Ammianus, XXXI.2.6) Non-combatant members of the clan, such as women (when not participating more actively in the fighting), children, the aged, and the infirm, lived in *ger*, and on major campaigns or migrations would have formed a kind of base camp.

So long as grass was available for their animals, the nomads could live well enough within their ger in even very severe climatic conditions. However, when those conditions, for any of a number of reasons, became unbearable, then migrations to seek better living conditions occurred, the alternative in many cases being starvation. The earliest migrations of mobile steppe people that are attested archaeologically date from at least the fourth millennium BC. It might be said that the last migration is occurring even now, as the steppe dwellers today increasingly give up their nomadic ways for more secure urban lives.

ARCHERY AND THE BOW

The bow

The bow is the oldest weapon or tool of more than one area – it is also the first human creation able to store and release energy. The principle of the bow, first used as early as 50,000 years ago, is simple enough in concept. If a supple branch is put under tension it will want to return to its normal position, and if released it will do so, using the energy that was originally expended in bending it. The outside curve (back) of a bow is under tensile stress, the inside curve (belly) under compressive stress, these stresses increasing as the bow is drawn. To harness these forces effectively ancient peoples had to carefully select the wood for the bow, create a string able to cope with the stresses involved, and develop a projectile that could be accurately propelled using the energy stored in



A Chinese representation of a Mongolian horse archer. The archer is making the ubiquitous 'Parthian shot', a technique that was typical of all steppe mounted archers.

the bow. For millennia nothing superseded the bow in effectiveness for hunting or warfare – and for a long time not much changed in bow technology. Until the development of the composite bow on the steppe of Central Asia most bows were a variation of the self-bow, a bow made of a single stave of wood.

The self-bow is the old standard, used from time immemorial, sometimes sinew-reinforced, or even laminated from strips of the same kind of wood, for extra strength. The famous English longbow (so-called because of its length of around 6ft, or more than 180cm) was typically made of yew. Yew has been a bow wood for millennia – the bow carried by the 5,000-year-old mummified man found in the European Alps in 1991 was 6ft long and made of yew, as are the bows recovered from bogs at Holmegaard in Denmark, dated around 6000 BC, and those found in 1979 on the medieval wreck of the *Mary Rose*. On the steppe lands of Central Asia there are no yew trees, in fact a general lack of any suitable trees, and so a different path was taken in bow development, focusing more on the combination of materials. This method of bow construction would give the steppe peoples an enormous technical advantage.

The composite bow may have originated as long ago as 1500 BC, perhaps considerably earlier – the bow remains from Angara, dated to the third millennium BC, are clearly bone and sinew reinforced. The first composite bow with bone reinforced 'ears', a major development, may have been used around Lake Baikal, *c.*500 BC. Despite many individual external differences, across the steppe, and across time, the composite bow would remain essentially uniform in construction method.

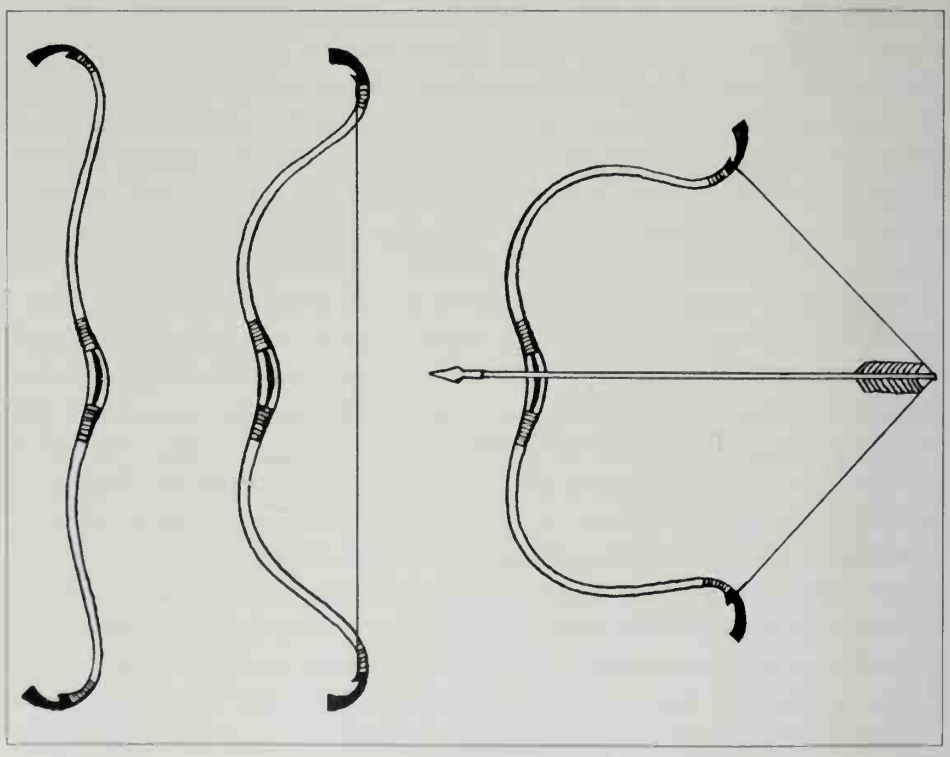
The composite bow is, as the name suggests, made of several different materials. Typically this could involve wood, horn, sinew, leather, bamboo, and antler. The wood or bamboo was used to create a lightweight frame or core on which to build the bow. The core itself did not need to be particularly strong, as it experiences minimal tension and

This pair of Magyar-period arrowheads, held in the Hungarian National Museum, show two of the many types of arrowheads used on the steppe, one barbed, and one forked for bird hunting. (Courtesy of Tamas Hortsin)

compression, although a carefully selected grain was important to prevent warping during manufacture. For this reason it is thought that bamboo may have been most popular when available, as it has no grain and so does not warp. The wooden core, which was steamed into shape on a form, could be made of one or several pieces of material, often maple, birch, or mulberry. On one side of this wooden core or frame horn would be applied to form the belly of the bow.

Horn is an interesting substance, as the steppe bowyers discovered. First, it has great compressibility, at around 4% before yielding to the applied forces, or roughly 13kg per square millimetre. This is somewhat better than wood, which starts to give at 1% of compression. Horn also returns readily to its original shape once compression is released. Horn from a buffalo, long-horned cow, or ibex was chosen and shaved down to the desired size, then, in the case of long-horn cattle, steamed and pressed flat. Buffalo horn is naturally more flexible and resilient, and comes in longer strips, so would usually be the first choice. The horn and the wooden stave were deeply scored with a comb-like tool, to double the gluing surface, and after bonding one piece or several strips of horn to the wooden core using fish or hide glue, they were bound tightly together. The bow stave was braced in a curve the opposite of the completed bow, and the horn allowed to dry for two or more months. Next sinew was bonded to the back of the wooden stave.

Sinew from the hamstrings or back tendons of a cow or deer was applied in several layers, after being dried and pounded, and bonded using glue made from the swim bladders of fish or an adhesive obtained by boiling hide. Fish glue was preferred, being water resistant and elastic; also, glue from boiled skins tended to absorb moisture, potentially weakening the bow. Fish were not hard to obtain, as the steppe abounds with rivers and streams, and not a few lakes. Ultimately the quantity of glue used could equal the relative amounts of horn or sinew.



RIGHT **This diagram of a typical Scythian bow shows the extreme recurved shape of the composite bow. This design endured for centuries, until superseded by the Hunnic addition of *siha* limb extentions.**

BELOW **The composite bow in cross-section reveals the inner wooden core, with the heavy layer of horn bonded on one side, and several layers of stretched sinew on the other side.**

The glue could take up to a year to fully cure. As the sinew and glue dried it tended to shrink, which pre-tensioned the bow. The bow was now heavily reflexed – that is, the curvature unstrung was opposite to the curvature when strung. Sinew has high tensile strength, approximately four times more than bow wood – some 20kg per square millimetre. This allowed a small bow to be made that was not weaker due to size reduction, and furthermore as the sinew tends strongly to return to its original condition it acted somewhat like a rubber band.

After final shaping, the bow would be bound in some suitable material to protect the horn and particularly the sinew from the elements, most often using leather strips or bark. Today's Mongolian bows use birch bark for the final wrapping. After a very complex and time- consuming process, taking several months, sometimes years, the bow was now complete. Once these disparate materials had been positioned and bonded in place the result was extremely flexible and strong. When drawn, the horn would compress and the sinew would stretch, and both would attempt to return to their original condition. One material was pushing, the other pulling. The composite bow could bend very deeply without failing, resulting in its draw length being longer comparative to its size, which increased the amount of energy that could be stored and therefore the power and speed behind an arrow. The smaller composite bow not only had the power of a much larger self-bow, it was smoother and more efficient, and it could also be left strung for extended periods of time without risk of weakening the bow.

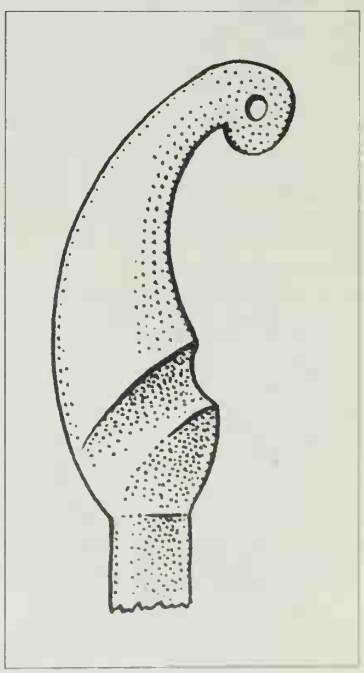
To increase the power potential further, composite bows were recurved in style, with the limbs curved forward at their ends. The recurved ends add to the velocity given to the arrow. This effect was greatly increased later by the addition of wooden or bone *siha,*[1] 'ears' set at an angle from the limbs that acted as a lever, causing the limbs to bend around and inward even further, thus maximizing the length of the draw. Possibly a Hun innovation, *siha* became the norm in composite bows, although the degree of cant and the materials used would differ greatly from people to people.

To draw a bow there must be a string between both ends, and this has to be of a material that does not easily stretch, and it must be neither too heavy nor too light for the bow. As the string is constantly placed under a great deal of stress, and must not stretch or break, bowstring technology is just as important as the bow itself. Bowstrings were commonly made of animal sinew, horsehair, and perhaps vegetable matter, such as certain vines, and sometimes silk – later extensively used by the Turks. Archers always carried one or more spare strings, including for use in differing climatic conditions. For example, horsehair strings are best suited to cold climates unlike leather/sinew strings, which absorb moisture and stretch.

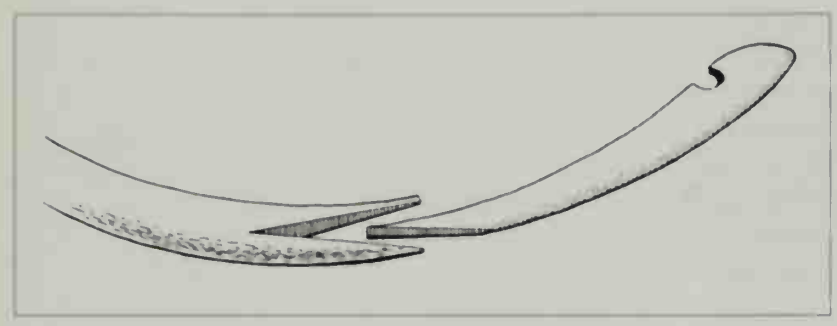
Arrows

There were many arrow types, originally with heads of stone and bone and increasingly with heads of metal. Arrowheads were chosen depending on the task – different arrowheads are required for shooting birds, fish, small and large game, for long-distance shooting or punching through armour.

The Scythian bow featured horn or bone nock-ends attached to each limb. The looped end of the bowstring sat in the groove, the horn providing extra strength to the end of the bow limb, which was under great stress each time the bow was drawn.



[1] Also spelled *siyah*. The word is found throughout old Middle Eastern archery literature.



TOP **This *siha* limb extension added extra force to the bow limbs when fully drawn, by acting as a kind of lever. This piece is from a Hun burial, Hungary.**

ABOVE **The *siha* were attached by splicing them to the bow limb. The join had to be strong in order for the limb to resist the forces involved in drawing the bow.**

Ammianus reports that bone arrowheads were common. If correct, this shows their late use on the steppe (Ammianus, III.2.9). However, bronze arrowheads were widely used for hunting and for war – and the variety of metal arrowhead types was staggering, including those that whistled for signalling, those with a groove for poison, and so on. (The Scythians are known to have made poison for their arrows from the venom of a particular kind of snake – this was mixed with decaying snake flesh steeped in human blood, and buried in dung until putrefied.)

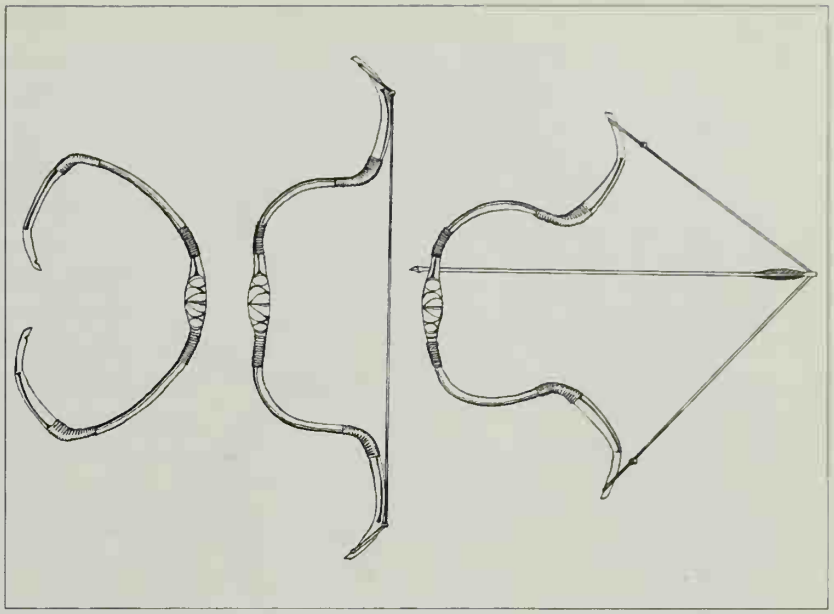
The standard Scythian bronze arrowhead, today found all over the steppe, was notably small and trilobate (three winged), both with and without barbs. The bronze arrowheads were socketed, so the shaft was inserted into the head. The Turks seem to have made much use of a leaf-shaped arrowhead, and the Hun of a rhomboid design, both usually tanged for sinking into the arrow shaft. Apart from these, the types of arrowhead used across Central Asia varied greatly in design, and most are not easily attributable to any particular people. They may have been a common item of trade, making it even harder to show origin.

The arrow shafts themselves were commonly made of cane or reed, while other woods such as birch and cornel-wood were also employed. Reed arrows would travel further and were easier to make, on the other hand the wooden shafts were less likely to break on impact and might be more easily reusable. The feathers used in fletching the arrow varied, both in type and function, though generally the feathers of water birds such as geese and ducks were preferred. An arrow could be fletched with two to four feathers, and possibly with its flight feathers attached to the shaft in a slight spiral pattern to make the shot more accurate, somewhat like the rifling in a firearm.

For a bow to work effectively the arrow had to be well made – for although with skill a bad bow can be made to shoot a good arrow, the reverse is not true. Apart from quality, arrows must also not be too heavy or too light for the bow, or too long or too short for the archer. To ensure good results an archer had matched arrows, made the same way and so with the same properties. However, in battles such as Carrhae (53 BC), where the Parthian archers' arrows were supplied from a central source, there can have been no such matching, and the experience of the archer was necessary to make the necessary adjustments.

Bow range

We are able to know something of the range of ancient bows, thanks to chance archaeological finds and recorded feats. On the Genghis Khan Stone, dating from the early 13th century AD, the archer Esukhei is recorded as having fired a distance of 335 *ald* in competition in the year



ABOVE LEFT **The hexagonal arrowhead is of typical Hunnish design, found in Ukraine. The other arrow is possibly a Turkic arrowhead found on the steppe of Russia, exact provenance unknown. (Author's collection)**

ABOVE RIGHT **A Turkish composite bow, unstrung, strung, and at full draw. The composite bow's design allowed a longer draw than simple, single material bows. With refined use of materials and design the Turks created the finest composite bow of all, not superseded in potential until modern times.**

1225, this being around 1,759ft (536m). One and a half thousand years earlier, also using a bow of composite type, a similar result was achieved, at the site of ancient Olbia, a Greek Black Sea colony. A stele of *c.*300 BC has been found at Olbia that describes the distance-firing feat of a certain Anaxagoras son of Dimagoras – some 1,711ft (521.6m).

The distances recorded in these two cases are impressive and instructive. Such distances were clearly feats worthy of memorializing on stone, and indicate the outer range of the earlier Scythian and subsequent Mongolian bows. However, an effective range of around 575ft (175m) was more realistic, and at a distance of 160 to 200ft (50 to 60m), deadly accuracy could be expected. However, the archer was not always trying to achieve 'one shot one kill'. Studies show that while most arrow strikes resulted in at least temporary debilitating injury, only between one in 50 and one in 100 would be fatal outright. This is not a reflection on individual accuracy, but rather because in large-scale battles most arrow strikes were made at random, by arrows fired in volleys, not by an archer carefully picking his target – though naturally this skill was put into practice whenever possible. Such firing for effect was a common tactic of the mounted archer, whereby a group of horsemen rode to within their outer bow range and began showering their enemy with arrows, which proved very disconcerting and demoralizing to the enemy.

The steppe archers further mastered the technique of shooting at a fairly high elevation, perhaps as much as 45 degrees, so that arrows fell almost vertically onto the enemy. This was very effective especially where the enemy was encamped, fortified, or otherwise massed in one place.

Steppe archers were able to draw and shoot up to 12 arrows a minute, and as they carried anywhere from 30 to 150 arrows to war a group of Scythians, Avars or Turks could bring a lot of arrows to bear on an enemy. As C. de Bridia put it in 1247, talking about the Mongols: 'As soon as their arrows can reach the mark unhindered they are said owing to the density of their fire to rain arrows rather than to shoot them' (Bridia, C. de, *Historia Tartarorum*, passage 58).

This Mongolian archer is shooting at high elevation, a skill much developed by the mounted warriors of the steppe. Their arrows could be made to land almost vertically on a target. The archer is on a hunt, depicted in a 13th- or 14th-century Chinese scroll.

However, at this rate ammmmition would soon run out without careful use and access to resupply – when the Parthian general Surena defeated the forces of Crassus at Carrhae it was largely because he had set up an effective logistical system for restocking his mounted archers' ammunition.

The draw

The draw is an important skill for an archer to master, for in its accomplishment lies the possibility of accuracy. The Scythians and those steppe peoples that followed almost universally used a thumb-draw, the 'Mongolian draw'. The usual draw in the West was, and is, the 'Mediterranean draw'. This draw is achieved by using the first three fingers of the drawing hand, the forefinger above the nocked arrow and the other two below. This is an effective and simple enough method, and is easily learned. The thumb-draw uses the thumb to pull the bowstring back, with the forefinger in contact with the thumbnail to lock it in place before the release. The thumb-draw is more difficult to learn, but as the nomads were taught it from childhood it must have seemed natural.

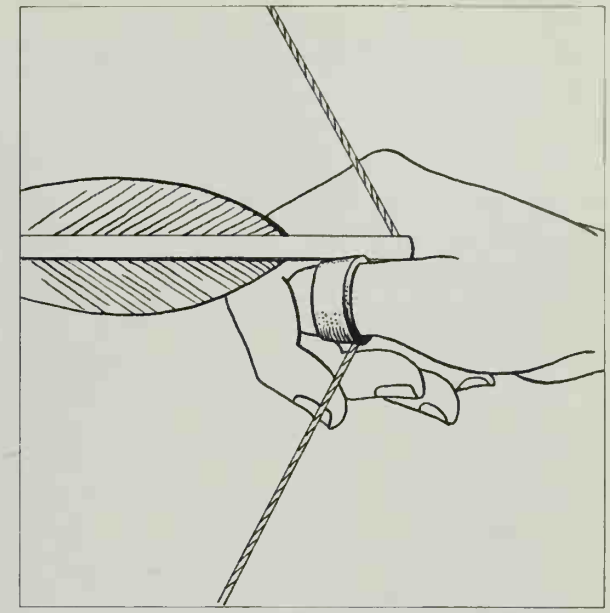
With the thumb-draw the arrow is usually shot from the right side of the bow, unlike the Mediterranean draw which shoots the arrow from the left side. The thumb-draw is a faster draw, allowing greater speed of delivery, and it also helps prevent the bowstring bruising the left forearm, which can disrupt the aim. The most important aspect of the development of the thumb-draw, however, has usually passed notice – which is that this draw was developed specifically for use with the short composite bow of the mounted archers. When drawing a bow there is always some degree of finger pinch, at the point of full draw when the string is sharply angled. Being made for mounted use, the composite horse bow was inevitably much shorter than a traditional self-bow, resulting in a lot more finger pinch than experienced using a long bow. Apart from being unpleasant, finger pinch is disruptive to the shot, and so the single digit thumb-draw was developed.

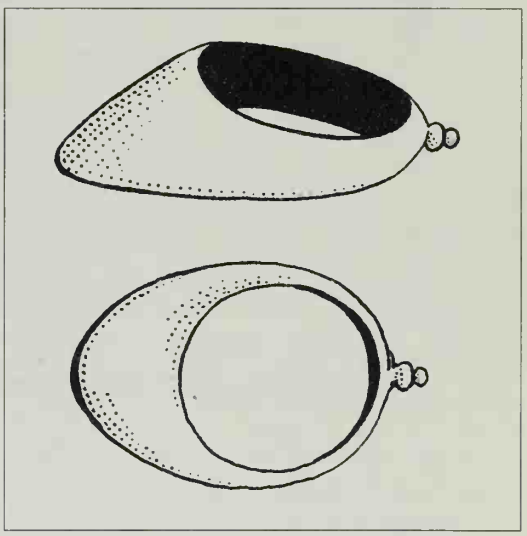
The Persians used a distinctive draw of their own. They are depicted in most artwork with their forefingers laid across the arrow, as if pointing the way. This is in fact an important feature of the Persian draw. When using a 'Mongolian draw' some twist is applied to the bow hand, causing the large knuckle of the forefinger to apply pressure to the arrow, holding it in place on the string. The Persians were apparently using their forefingers to achieve the same result and, like the 'Mongolian draw', the Persian method worked to secure the arrow from falling off the bow while riding. The 'Mediterranean draw', however, could not do this, and it remained in use principally by Western foot archers.

To make the thumb-draw smoother, and more comfortable, a thumb ring was used. This could be made of metal, horn, bone, or leather. They

were often designed so that the string was hooked into a groove or depression on the inside of the ring, and when the thumb was moved to open the string slid easily out and away. This item, coupled with the more efficient thumb-draw, certainly allowed for a superior loose.

An interesting note on drawing is that the Romans are said to have been second-rate archers because they drew the bow to the centre of the chest, unlike the steppe and Eastern archers, who all drew to the face. Ammianus also commented on this, being very surprised by the length of draw, and the expertise of the release (Ammianus, XXV.1.13). Such a long draw loads the bow with more potential energy and is therefore more powerful. As one sights directly with the eye, as in firearm shooting, it is likely to be accurate as well. The usual draw for Mongolians was further still, past the ear, a considerably more powerful draw.





TOP **The so-called 'Mongolian draw' used the thumb to draw the string back. Not only is the thumb the strongest digit, it is not subject to the 'finger pinch' of the 'Mediterranean draw'. There were a number of variations of thumb-draw used by different peoples that varied in the position of the fingers and the angle the hand is held at.**

ABOVE **Thumb rings were common all across Eurasia, and could be made of leather, bone, horn, metal, and stone. This bronze example has a small knob to which a string was attached and tied around the wrist, to avoid losing the ring.**

Bow quivers and arrow quivers

Through most of history quivers have been of only a few sorts. The Scythian quiver, however, was unusual and was actually a bow quiver and arrow quiver all in one. The Greeks called this item a *gorytos*. The bow could be placed in the bow quiver already strung, with about half the bow extending out of the quiver. The *gorytos* hung from a belt hook at the waist, and when mounted the bow would have been easily reached. The arrows were kept in a special pocket on the front of the *gorytos*. This all-in-one arrangement was peculiar to the Scythians and related peoples, including the early Parthians. Other steppe peoples used a simple container hung from the belt or hung on a strap over the shoulder. However, there were two basic patterns in use across the steppe. The Huns, Avars, and later Mongols used both types, one being tube-like and the other hourglass shaped with a closing flap. The shape of the latter was designed to accommodate the fletching of arrows carried point up for easier arrowhead selection. Quivers were made of perishable materials such as leather, wood, bark, and so on, and few remains survive other than pictorial representations. The strung bow was still kept in a bow quiver, but this was by now a separate item.

Most usually it seems the bow was hung in its quiver on the left and the arrow quiver on the right. Pictorial evidence shows arrow quivers hung at various angles or straight up and down, and bow quivers hanging with the bow pointing either to the front or the rear, and it seems that it was a matter of personal choice how the bow and arrows were slung. Unstrung bows might be carried in a long sock-like leather bag, to protect them while travelling about.

The composite bow – advantages and development

The Scythian bow, with its smaller construction, made turning about on the horse to shoot to the left or behind considerably easier. This bow

dominated steppe archery until the time of the Huns. The Hun bow had *siha* ears added, set at an extreme angle – creating much greater leverage, and adding power to the shot. Most unusually, the Hun bow was often asymmetrical – that is, its upper and lower limbs were of an uneven length, the upper being the longer. This design allowed the Hunnic archer a bigger and more powerful bow than the Scythian style, but one that was still not interfered with by the horse and accoutrements. (Interestingly, the only other example of asymmetrical bows was among the Japanese samurai, who were originally also mounted archers.) The Avar modified the Hunnic bow – principally altering the shape and angle of the *siha* – and variations of their design stayed in use for centuries. It was this bow that the Byzantines adopted in the 4th and 5th centuries AD.

A gold quiver facing panel, either Avar or Khazar. This 7th-century find comes from the Pereshchepina Complex, Ukraine. (Photograph courtesy of the State Hermitage Museum, St Petersburg)

The final stage in development was centuries later in the hands of the Ottoman Turks, settled in their new Anatolian home, who in the 15th and 16th centuries improved on the bow by refining the shape and materials used. Using a special bow, the standing 'flight' record was made by Sultan Selim III, at 2,917ft (889m).

The bow was an extremely complex, refined, and advanced piece of equipment – technologically it was far ahead of its time. The production of it from Turkish times until the present has been in the hands of professional bowyers. However, for most of the history of the composite bow on the steppe it was made by the individual who used it. Every steppe warrior was his own bowyer, fletcher, and repair technician – the Muslims who first encountered Turkic horse archers were amazed at their ability to make and repair their own equipment. This level of skill in weapons making was not usually in the hands of the individual warrior in the more sedentary societies on the edges of the steppe. Instead, a man bought or traded for his weaponry, and the degree of wealth determined the quality and type of weapon any individual warrior had. When an item broke or was lost, the warrior sought an expert craftsman to repair or replace it. However, the mounted warriors from the steppe were in this, as in most areas, fully self-sufficient.

The steppe rider was virtually bred for war, some say he was in the saddle before he could even walk, and he received his first, miniature, bow when only five or six years old. As de Bridia pointed out in his *Historia Tartarorum*, a report of the Carpini mission to the Mongols, the women did all the everyday work, 'while the men make nothing but arrows, and practise shooting with bows. They compel even boys three or four years old to the same exercise, and even some of the women, especially the maidens, practise archery and ride as a rule like men.'

The bow held pride of place among a warrior's possessions, and was at various times, by the Hun and the later Mongols for example, used as

a symbol of rank, often covered in gold. In steppe burials, in *kurgans* (burial mounds), despite the burial of precious stones, gold, even horses, few remains of intact bows have appeared, presumably due to their inherent value. Gold and silver might come and go, but a good bow clearly held inestimable value.

OTHER WEAPONS, ARMOUR AND CLOTHING

Swords

Among the Scythians/Sakas a short sword of Persian *akinakes* type was common. Evident already by the 7th century BC, this weapon had a blade anywhere from 14 to 28in (35 to 70cm) in length. The extant artwork suggests that the short *akinakes* sword was in common use among Scythian mounted archers. Being a short sword, this weapon was clearly meant for use as an in-close fighting weapon, rather than as a weapon for mounted swordsmanship. Essentially, the weapon's dimensions suggest a sword intended for personal defence, perhaps also used for such battlefield tasks as dispatching a fallen foe, and as a general-purpose blade. As the Scythian's first-line weapon was always the bow, a short sword was sufficient for these purposes. Although by the 6th century BC longer swords were becoming more common, the short *akinakes* was not to be fully superseded for centuries. By the 3rd and 2nd centuries BC, swords in excess of 3ft (1m) were in use, typically with a heart-shaped guard and short knob-like pommel. A longer sword obviously had the advantage of being readily usable from horseback.

This metal-rimmed Magyar hourglass arrow quiver holds three varied arrows. (Hungarian National Museum; photograph courtesy of Tamas Hortsin)

The Sarmatians used a short sword typically between 20 and 24in (50 and 60cm) in length, often with a ring-shaped pommel. However, blades in excess of 28in (70cm) are known. These swords, like the *akinakes*, were typically straight sided and two edged. The Huns in their turn favoured a long two-edged, two-handed sword. However, over time the sword of the steppe evolved not only from short to long, but also from straight to curved. The Avars are credited with developing the curved sword around the 7th–8th centuries AD, based on their earlier single-edged straight sword. Although a very effective weapon, the curved sword remained rare for a long time, partly due to the greater difficulty in manufacture and probably even more due to military conservatism. The so-called 'Sword of Charlemagne' is probably an example of an 8th-century Avar sabre, and a similar blade in the collection of the Metropolitan Museum of Art is also believed to have

This Scythian is from the Persian kings' palace complex at Persepolis (5th–4th century BC). He is wearing an *akinakes* short sword, widely used by steppe cultures and the Persians in antiquity. The typical long coat, ankle boots, and pointed hat of the Scythian are also well depicted.

been made among Turkic or Mongol steppe people some time between the 9th and 12th centuries AD. Similar weapons were popular with the Magyar (Hungarians). Despite the increasing emergence of the sabre, straight swords would continue in use throughout the period under review, although certainly by the end of our period the sabre was rapidly becoming the more typical weapon.

Daggers

Among the steppe riders a dagger was typically carried in all periods, and a number of dagger designs are encountered in the archaeological and artistic record. Among the Scythians one of the most popular designs was shaped much like the *akinakes*. The Sarmatians had daggers with 'crescent moon' and 'antennae' pommels, and later with ring pommels (also a feature of their swords). Later Turkic daggers had waisted or double-waisted handles, and generally featured a straight blade, although later a curved blade became increasingly evident.

Despite the many styles, it was typical that a dagger be carried by steppe warriors. Whereas the Scythians and related peoples tend to be depicted wearing one short sword only, the Sarmatians, and those that followed them, most typically carried two blades, a long sword and a dagger. Parallels have been drawn between this custom and the two-blade system of the Japanese samurai, and there could actually be some connection – the early Japanese arrived on the islands from the continent, and, like the Koreans, they had had contact with steppe people, perhaps imprinting the Japanese with the two-blade tradition in the process. That this might be so is further suggested by the fact that both the Japanese and the Korean peoples also had strong mounted archery traditions.

Javelins and lances

There are a number of artistic depictions, from different eras, that show steppe warriors on horseback and armed with a javelin, spear, or lance, and also equipped with bow and arrows. Spearheads appear frequently in the archaeological record, suggesting a wide use of such pole arms. The Scythians are known to have used javelins, with $6^1/_2$ and 10ft (2 and 3m) lengths typically available, depending on the spearhead, used either as thrusting or as throwing weapons. They are reputed to have been very accurate with the use of these weapons in hunting, and in war too.

The Sarmatians were particularly well known for their heavily armed lancers, at least some of whom were also equipped with archery equipment, although light-armoured mounted archers also existed

independently of them. The Huns also frequently carried a long, pennanted spear.

Among the Avars that followed them, the bow was also complemented by a lance, with a new kind of lance-head. The Mongols, too, used a spear or lance, however theirs often had a hook attached, used for dragging enemies from their mounts. Light Mongol cavalry were generally armed as archers, but many were also armed with javelins, however the heavy cavalry were primarily lancers, being equipped with bows as a secondary weapon.

Curved swords came into wide use only slowly, after being first introduced to the west by the Avars. The hilt of this early Magyar (9th–10th century AD) sword, from the collection of the Hungarian National Museum, is decorated in silver. Note the similarity between this hilt and the one on page 55. (Photograph courtesy of Tamas Hortsin)

Lassoes and other weapons

The Sarmatians are reported to have used the lasso to bring down an enemy horseman, or to capture someone on foot, as were the Hun. The Mongols, too, are reported to have sometimes carried a lasso. This implement was probably very common among steppe peoples of all ages, being a tool of the herder. Pausanias describes their use in war in terms that show an identical method to one of the ways cowboys use lassoes on animals today: the lasso was thrown around an enemy and the horse then wheeled away, causing the enemy to trip. (Pausanias, I.2.17)

Also commonly seen in the archaeological record, and often reported in contemporary chronicles, were battleaxes, usually relatively small and clearly meant for use on horseback, and maces. These might be of stone or metal, and the designs vary over time and geography.

Shields were known in all periods and, though they are mentioned in the contemporary literature, they only occasionally appear in artistic representations. They were typically made of leather on a reed frame, and a few rare examples survive.

A forged 5th-century BC iron dagger from the Tagar Culture, southern Siberia. The dagger is a variation of the widely used *akinakes* design. (Photograph courtesy of the State Hermitage Museum, St Petersburg)

Armour and clothing

The typical steppe warrior, especially the mounted archer, was lightly armoured, the early warriors frequently wearing no armour at all – the archer relying instead on his long-range weapons and mobility for defence. The Roman author Cassius noted that Sarmatians who were thrown from their mounts in battle were easily dispatched, due to the lightness of their armour. However, armour was certainly evident, and could be just as elaborate as that seen in the 'civilized' states. Remodelled Greek breastplates are known among the Scythians, and the Sarmatians developed heavy armour for their lancers, while their lightly armoured archers might wear leather cuirasses and padded jackets. Ammianus mentions armour made of horn scales in use among the Alans. Quite elaborate armours made of overlapping leather and metal lamellae are known, with leather being up until the time of the Mongols

the most typical armour material. Armours among the Mongols included simpler bands of hardened leather laced together, as well as very elaborate and well-decorated metal armours. Mail was also well known, and various depictions of the Huns, Avars and others show both mail and lamellae.

Helmets were widely used, although just as much evidence suggests soft, perhaps padded, headgear was also common. All types of helmets typical of the eras in this discussion found expression among the nomads, often with stylistic changes made to suit the tastes of the new nomadic owner. Often, especially among the Turkic and Mongolian tribes, metal helmets had leather neckflaps attached. Hats were apparently almost always worn, and the perennial steppe design was pointed, often also with earflaps.

This unique 6th-century Scythian leather armour is an excellent example of the hard leather scale armours of the first millennium BC. (Metropolitan Museum of Art, New York)

Typically the steppe nomad, of whatever era, wore loose-fitting trousers and a kaftan-like coat with one breast crossed over the other, this being tied or buttoned to one side – or simply held in place with the belt. The coat usually had extra-long sleeves, for use as hand warmers in winter, and rolled up in warmer weather. Overall the basic dress style did not change for millennia, despite the existence of different individual tribal styles – for example, the Mongols fastened the left breast of their tunics over the right, whereas the Sarmatians wore it crossed over the opposite way, and some people, such as the Scythians, liked heavily embroidered clothes while others, such as the Mongols did not. In later times, Turkic and Mongolian fashions included closer-fitting tunics that buttoned up the centre. The materials used in making clothing changed over time, with wool, leather, and linen-like materials being

common in most eras, and cotton and silk in later times.

Boots were also worn universally, usually heelless, and of varying heights – the Scythians most often being depicted wearing ankle-length boots, while the later Mongols wore knee-length boots that were so large they were reputedly difficult to walk in.

Warriors in the Mongol armies under Genghis Khan and his successors were required to wear a silk undershirt. Silk has an antiseptic quality, helping to prevent wound infection. Moreover, silk is remarkably strong, and rather than tear if a warrior was struck by an arrow the silk tended to enter the wound with the arrowhead. As arrowheads enter in a spiral fashion getting an arrow out was difficult or impossible. However, the Mongol battlefield physicians found that they could carefully pull the silk clothing from the wound and as the material untwisted the arrowhead would follow its entry route out. Unfortunately, Mongol warriors rarely bathed or changed clothes, so their silk shirts were usually threadbare and dirty!

This rare Alannic padded helmet-like hat comes from Karachayevo-Cherkessk in Russia, dated to the 8th–9th century AD. It is made of silk and linen, and has a wooden spike on the top. (Photograph courtesy of the State Hermitage Museum, St Petersburg)

THE HORSE AND EQUIPMENT

The horse

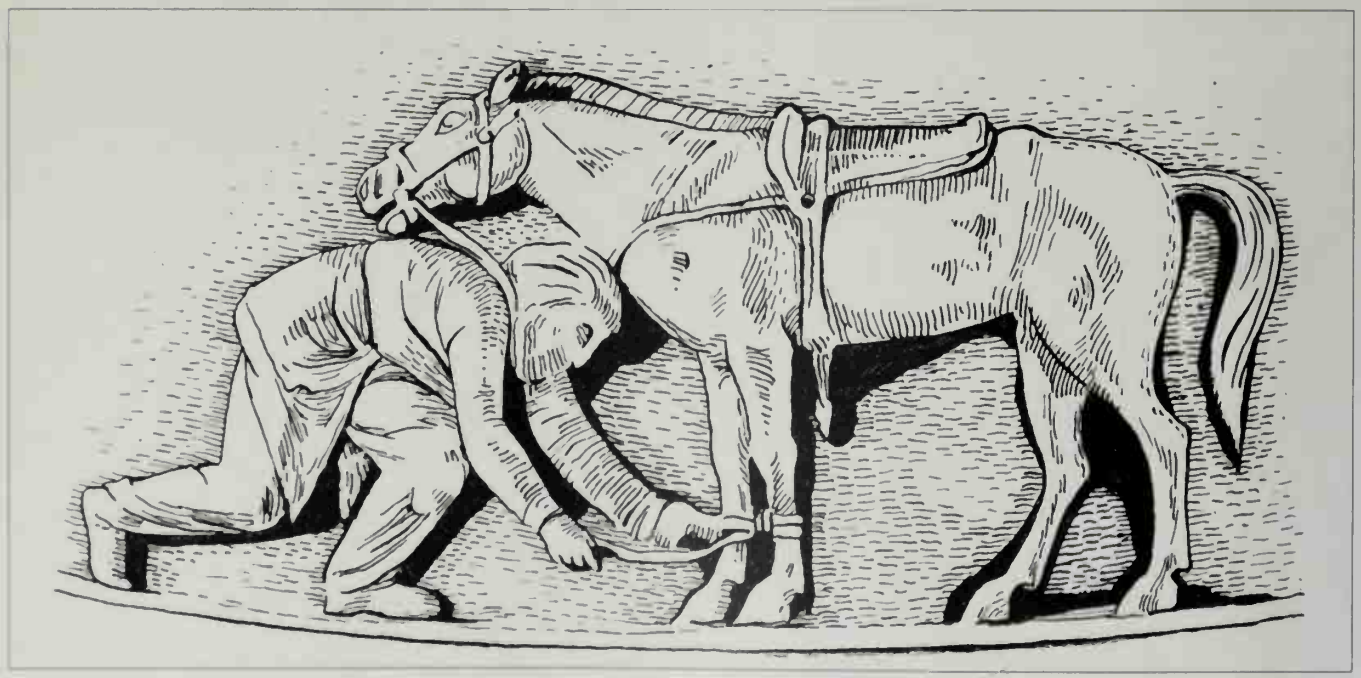
No one knows precisely when or where the horse was first domesticated, although the archaeological evidence clearly shows that by 3500–3000 BC, possibly even by 4000 BC, in various locations on the Eurasian

This Avar belt has been reconstructed using parts found in a late Avar grave (7th–8th century AD). Note the hinged equipment attachment points. (Photograph courtesy of Tamas Hortsin)

steppe, horses were fully domesticated. The first evidence comes from Ukraine and south-eastern Russia, and also from the Pontic steppe area of the northern Black Sea coast. The horse was initially herded and harvested by steppe pastoralists for meat, milk, and other by-products such as leather, sinew, hoof horn, and horsehair. Horse riding probably arose from this early exploitation of horses as a food source, as it is easier to care for a herd of horses if mounted, and also it allowed more horses to be kept. By its very nature the raising of horses requires mobility, as horses need to graze widely. Thus it might be said that the nomadic lifestyle of the steppe pastoralist developed in response to the increasing importance of the horse as a resource. The nomads of the Eurasian steppe then went on to develop equine societies with cultural elements shared by many different ethnic and linguistic groups. For all, the horse was necessary for survival, and so became culturally central.

On the steppe there was for a long time something of a cult of the horse, seen in the burial of horses' heads and horse figurines in rituals at human grave sites, the erection of horse hides on poles to mark sacred sites, and the many items showing cult status for the horse that appear in burial deposits. Horses were frequently entombed as a form of worship, from the earliest days of their domestication. A good horse could make the difference between life and death on the steppe, and this coupled with horses' cult status meant they were revered and kept with pride, no longer just as a food and produce supply as in earlier days. The horse soon became a necessity for steppe cultures, initially only to Indo-European-speaking peoples, and then to Turkish and Mongolian groups. This centrality of the horse led to successful expansion, and eventually large-scale migration and invasion.

The advantages to a warrior of being mounted on horseback are numerous. Apart from the obvious vast improvement in mobility, there is also the fact of a higher position from which to fight pedestrian opponents; the physical and psychological effects of the large and powerful animals themselves; and the possibility of individual warriors



This Scythian nomad is hobbling his horse, in a scene from a vase found at Chertomlyk, Russia. The horse is clearly a typical example of a steppe pony, such as the now rare Przewalski breed. Note the simple pad saddle.

Scythia, 6th century BC
1: Scythian archer
2 & 3: Scythian warriors from rival group

Scythia, 5th century BC
1: Scythian nobleman
2: Scythian warrior
3: Scythian woman
Angus McBride

Parthia, 1st century BC

Huns in Eastern Europe, 5th/6th century AD
1: Hun warrior
2: Hun officer
3: Germanic warrior
2
3

Avars in the Balkans, 7th century AD
1 Avar nobleman
2 Avar warrior
3 Slavic peasant
1
2
3

Turkic warriors on the steppe, 8th century AD
1 & 2: Turkic warriors
3: Steppe woman

Mongols in the Middle East, 1220 AD
1: Mongolian heavy mounted archer
2: Mongolian light archer
3: Persian foot archer
1
2
3

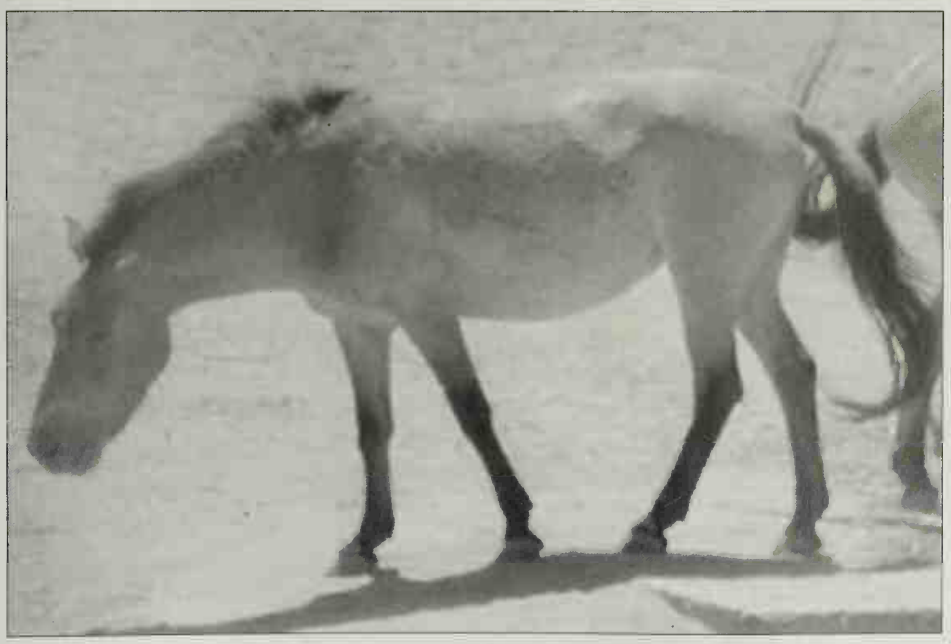
Seljuk Turks in Anatolia, 13th century AD
1: Seljuk archer
2: Seljuk warrior
3: Cuman warrior

fulfilling different roles as the situation demanded – a man could be a mounted archer working from a distance, a cavalryman using sword, spear, or javelin at close range, or an infantryman, delivered to the battle by his mount. However, before all this could come fully to pass there had to be developments in horse management and tackle, and most of all in the experience needed to best use the resources available. Due to the very nature of pastoral life, over the centuries the peoples whose lives revolved around their horses developed both the skills and the technology, as well as suitable horse breeds.

Horse breeds

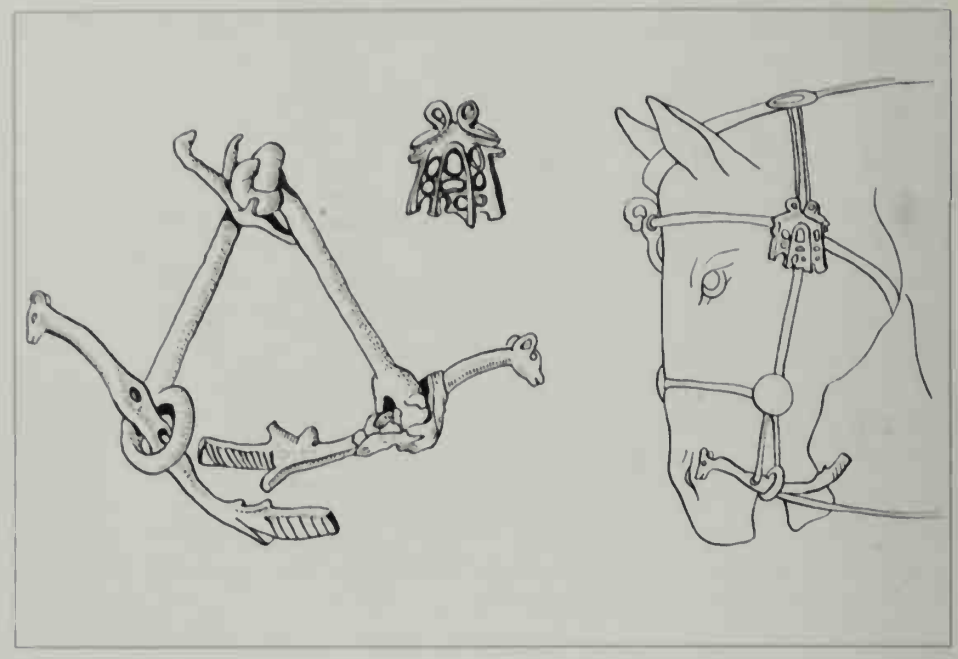
Suitable horses did not occur naturally, being at first too small to support the weight of a man for anything other than stock control, so a horse suitable for warfare had to be developed. The first Asian horse suitable for riding, from which later breeds were developed, still exists in small numbers on the eastern steppe, 'the last remaining wild species of horse', the Przewalski. This is a small horse (strictly speaking a pony) 12 to 14 hands high (hh). The many horses excavated by archaeologists among settlement remains at Dereivka, Ukraine, dating to some 6,000 years ago, are not distinguishable from the Przewalski of today. Over time, as various characteristics were selected, the steppe horses became more differentiated.

In Central Asia there are several breeds of horse believed to have originated in the first millennium BC. The Akhal-Teke in Turkmenistan, a light, tall horse (average height 15.2hh),[2] and breeds such as the Buryat (14hh), and the Altai (13hh), are the kind of horses the first mounted archers from the steppe would have used. Indeed, examples of Turkmen horses (14.3–15.3hh), another ancient steppe breed still in existence, have been found buried with their owners in the Pazyryk tombs, in the Altai Mountains. These are the graves of Scythian warriors, dated from 500 to 100 BC. The hardy little Mongolian Pony (12.2hh) is



The modern Przewalski is little different in appearance to its ancestors. Although once widespread, they are an endangered species today. (Photograph courtesy of Dawn Marie Calo, www.spiritwoodsstudios.com)

[2] The traditional epic poetry, many centuries old, of the modern Caucasian Ossetians describes a horse that has been said to closely resemble the Akhal-Teke. The Ossetians are the modern descendants of the Sarmatian Alans.



Bit and metal bridle appliqué from a 5th or 4th century BC Scythian barrow near Voronezh, Russia. The horse's bridle has been recreated from parts found in the grave.

still considered to be essentially the horse ridden by the Mongol hordes of the 13th century. These various breeds most often have Przewalski blood mixed in – the importance of which will become clearer shortly. Archaeology can help to clarify the types of horse used in the past, but also some inferences can be made based on artwork. For example, the horse on a 4,300-year-old silver vessel from the Caucasus shows a horse the characteristics of which suggest a Przewalski. The similarities are clear, though so also is the likely crossbreeding with a lighter and faster Central Asian breed much like the Akhal-Teke.

The Przewalski was, and is, a special breed of horse. Not only was it the progenitor of later breeds, but also, as a horse that thrived on the steppe, it had characteristics that were of great use to the nomad warriors. They can feed on virtually any quality of pasturage, fending for themselves in the very severe conditions at home on the north-eastern steppe. The eastern steppe is colder by far than the western, and the conditions vary greatly between extremes – in summer a typical day may be a cool 54°F (12°C) and windy, but in winter days can be –58°F (–50°C) and the steppe deeply snow covered, and the winters are long. Surviving in these conditions for many millennia caused the Przewalski, like its nearest cousin the Mongolian, to develop accordingly into tough little horses. Such steppe horses were uniquely able to feed themselves even in deep winter, using their hooves to uncover grass up to 20in (50cm) under snow. Coping well and gaining sustenance in a particularly harsh environment would give critical advantage to mounted warriors on extended raids, as their horses did not require the cartage of winter fodder but were simply let loose at the end of a day's riding to fend for themselves. They would be the lowest maintenance horse of any cavalry then or in the future, and such horses were a serious advantage for anyone intent on quick raiding, over any distance and at any time of the year.

A horse with Przewalski blood offered other advantages as well. In a time before the regular use of horseshoes, a lame horse due to hoof damage was always a strong possibility, and selecting a horse with strong hooves was necessary. Xenophon, for example, not having ready access to

steppe horses, recommended conditioning hooves by a well-thought-out regime. (Xenophon, *On Horsemanship*, IV.3–4) The typical steppe horse had very resistant, thick hooves, and handled the work asked of it well without lameness due to all-too-possible hoof problems. This must surely have been a big advantage, for as Xenophon pointed out, '...there would be no profit in a war-horse, even if he had all his other parts excellent, but was unsound in the feet' (Xenophon, I.2). Further to stout feet, these hardy steppe horses had thick and very shaggy coats, which made them able to resist severe winter cold. Another advantageous quality was that, though short and stocky, they were of 'legendary endurance'.

Once Przewalski blood was being mixed with that of horses that had developed into new breeds in less aggressive climates, such as those in and around the Central Asian oases and on the edge of deserts, the Scythians and later nomads had a horse that was not only tough and low maintenance, but also reasonably fast, and perhaps more amenable to being taught more refined skills. These qualities were not lost on neighbouring peoples, even if the horses might have been thought of as 'hardy but ugly beasts' (Ammianus, XXXI.2.5). Philip of Macedon imported large numbers of horses from the Don to improve his own strain and, at the other extremity of the steppe, the Chinese, too, had a long history of trading with the 'northern barbarians' for breeding stock, often paying inordinate amounts to obtain them.

Horse breeding has been practised from very early in the history of horse domestication. The Mitanni, a people clearly influenced by Indo-European horsemanship and whose rulers themselves originated on the steppe, were famed as early as the 14th century BC as horse breeders and trainers. Breeding for type would continue unabated as long as the horse was needed for specific tasks, and Iranian-speaking

This saddle plaque would have been part of a set of four – two attached to the front pommel of the saddle, and two smaller ones for the back pommel. It is from a 6th-century BC saddle found in Pazyryk, Siberia, which consisted of two leather cushions stuffed with reindeer hair. (Photograph courtesy of the State Hermitage Museum, St Petersburg)

This hunt scene, called 'Suryubdo', is from a 5th- or 6th-century AD Koguryo Kingdom tomb, Korea. The mounted archers are depicted using bows of Hun type, with pronounced *siha*. Note the high saddles. (Courtesy of the Korean Army Museum)

peoples are known to have bred for speed as early as 1000 BC, as well as for size – big enough to carry a warrior to battle. By the time of the Parthians, in the first centuries of the current era, the region around the river Amu Darya in Central Asia was well known for horse breeding, breeders apparently mixing the blood of the wilder steppe horse with the more slender, tall and fast horses of the oases and desert fringe, such as the Karabair (ideal both for pulling a chariot and as a saddle horse), and the Akhal-Teke (used as a fast cavalry mount for the last 3,000 years). The most famous of classical-world breeds, the Nisean, came from the Parthian Central Asian domains, and was bred as a large war horse.

Horse numbers and remounts

The military power of a mounted people depends on a very large number of war horses being available. When on the hunt, it was necessary to have remounts available if any distance was to be covered, especially if time was a factor. A constant matter of concern for any cavalry force on long operations has always been the need to feed and rest horses sufficiently so as to have horses available at journey's end still capable of good performance. Having remounts available, and replacements for lost or incapacitated mounts once an army was at war, has also been a continuing difficulty. These are usually quite limiting

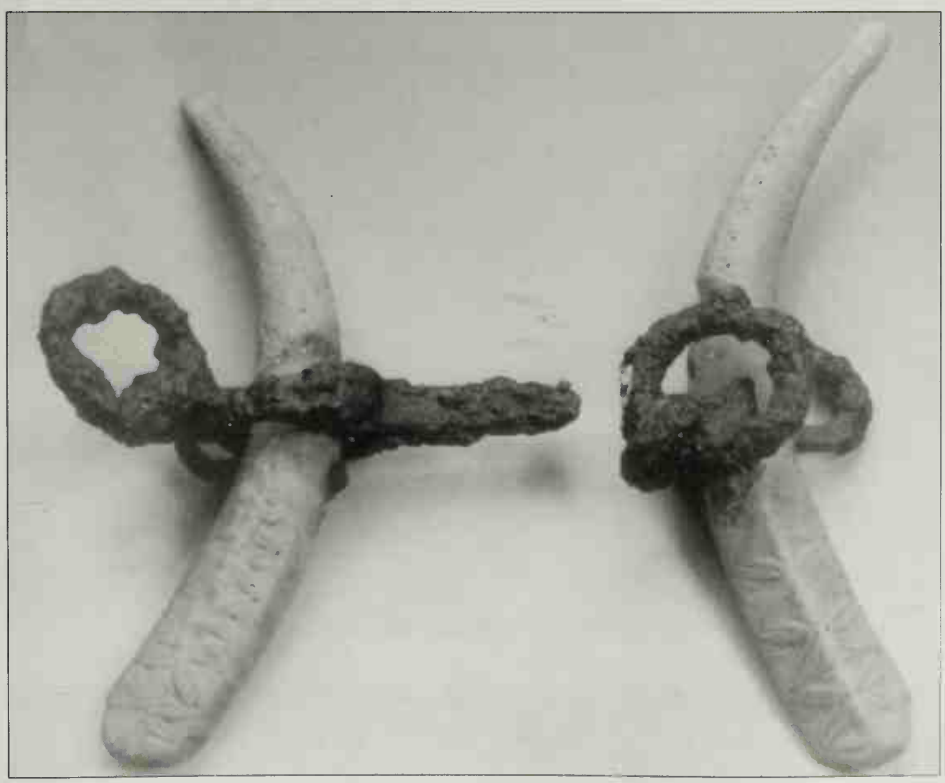
factors for mounted units, along with the need for regular watering and veterinarian matters that arise. It is believed, for example, that Attila and his Hunnic army never intended to invade Western Europe with a view to occupation, but that it was simply a grand-scale raid – this is probably so as the Huns and allies were largely mounted warriors, and once out of the Hungarian plains there would not be enough forage available for anything like the number of horses they usually needed. Indeed, Attila's force on this occasion included a large percentage of foot soldiery. On the steppe, these horse-feed supply problems either did not exist or were manageable. Not only was forage rarely a problem on the steppe, water was easily found in the steppe's many rivers and streams, and suitable remounts were available in large numbers.

Typically a raiding party might have four or more remounts available per man. Mongol cavalrymen are said to have changed horses three times a day to avoid tiring them. Early Mongol tribal cavalrymen had five mounts per man, but in the Middle East campaigns they had up to eight, giving them great mobility and speed. It has even been said that the Mongols had up to 20 unsaddled remounts per man. Being rich in horses, as the nomadic pastoral societies were, this is not surprising perhaps, but it was certainly an advantage that the nomads had over their sedentary neighbours.

Apace with developments in horse breeds there was also a continuing effort to improve the tackle and equipment of the horse and the mounted man.

Horse equipment

The earliest steppe cultures that we know of had developed bits of various sorts to control their horses. Mostly, these early bits were made of perishable materials, and we can know of their existence by tooth

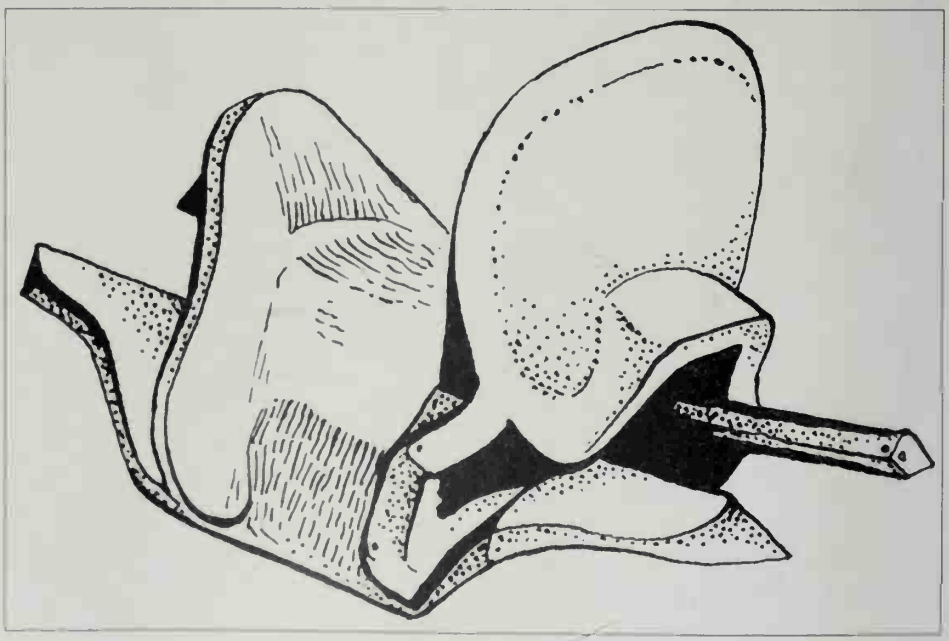


This early Magyar (9th–10th century AD) bit is made of iron and carved bone. (Hungarian National Museum; photograph courtesy of Tamas Hortsin)

wear on domesticated horse remains, and because of holed antler tines thought to have been cheek pieces, used with rope bits, found at Dereivka (*c*.4000 BC). The first metal bits, ringed snaffle bits very much like the styles in use to this day, were apparently developed by the Scythians and certainly improved horse management considerably. With a halter – the earliest horse tackle 'invention' and the minimum needed to control a horse – and the reins that must have closely followed the advent of horse riding, a workable metal bit completed the basic needs for horse control. The bit is clearly enough indicated in archaeological finds, increasingly from the 6th century BC made of iron. Riding over long distances became possible with the introduction of bridles and metal bits. The range of the mounted pastoralist was increased, as was his control over the horse's power.

A blanket thrown over the horse's back would early have presented itself as a means to better comfort for both man and beast, and as the remains from the Pazyryk tombs show, were not always lost as an opportunity for artistic expression. This led, not surprisingly, to the development of saddles, which affected not only the rider's seat, but offered more secure control of weaponry. The saddle, too, was a development of pastoral steppe horsemen.

The first saddle, two cushions designed to lie either side of the horse's spine, were seemingly in use by Scythian people, as the 5th-century BC Pazyryk archaeological finds show. The later frame saddle was likely to have been invented by the Sarmatians, although the Avars are usually credited with introducing the frame saddle to the West. A generation before the Avars, however, the Hun are said to have had wood frame saddles when they invaded Europe. The proper frame saddle, as opposed to some form of saddlecloth or pad saddle, was certainly a boost to mounted warfare, giving a far more reliable seat to the horseman. However, it is fair to say that its relatively late introduction indicates that warfare without it was certainly more than possible. That said, the saddle was a major step forward in the development of the kind of warfare that ultimately dominated the

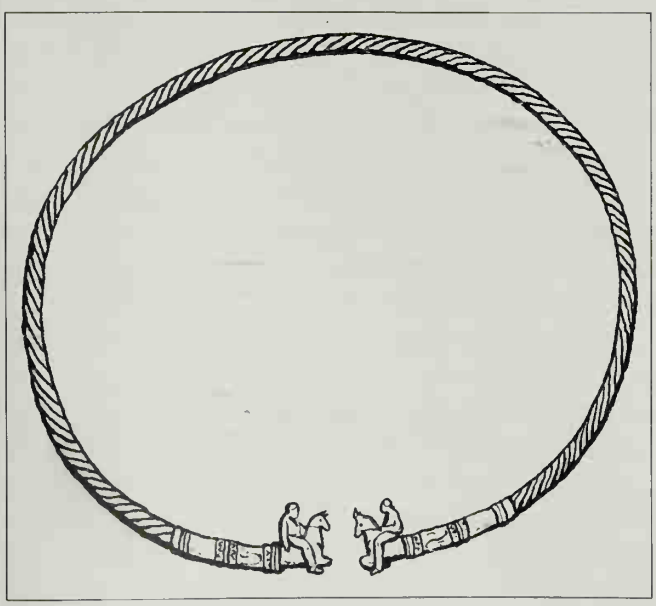


This 13th- or 14th-century Mongolian saddle clearly shows the high pommels of the nomadic archer's saddles. The Avars are credited with first introducing such saddles to Europe. This example is from an Inner Mongolian tomb.

Middle Ages, in both Europe and the Middle East, and in fact did so until fairly recent times.

Once a frame saddle was in use it became possible for the stirrup to emerge, and the stirrup, introduced to the west by the Avars, was apparently developed among the Turko-Mongol peoples. Though stirrups are widely accepted to have been invented in the first centuries of the current era, no one can be sure, and more evidence may yet come to light to put the date back in time. For example, there is an interesting gold torque dated to the 4th century BC, shown below, that depicts two mounted horsemen, whose riding positions highly suggest the use of stirrups – and these depictions also show what appear to be straps around the riders' feet, which could be interpreted as the stirrups themselves. If proved correct, this would be an important development in our understanding of the antiquity of the stirrup, and the route of its introduction to Europe. It would also create many new problems, such as why the stirrup did not become widespread for another 1,000 years or more. However, the suggestion must remain problematical, as stirrups presuppose a frame saddle, and in the late 5th century BC we know only of rudimentary pad saddles.

The stirrup, though often touted as a big step in seat security for sword-, spear-, and lance-wielding horsemen, really had more to do with creating a stable base for mounted archery. It is thus not surprising that it is first seen among mounted archers. The first solid archaeological evidence for the stirrup begins to appear in the 1st century AD, in Sarmatian burials in the Kuban. Artistically they also first appear clearly in the 1st century, in a cameo from Kushan. They did not, however, become widespread until the 5th and 6th centuries, possibly due to the conservatism of the military elite of those lands in contact with steppe warfare. Perhaps, as is now generally conceded, the impact of the stirrup on mounted warfare, of the sword and lance type, was not as critical as once believed. Certainly there is little strength left in the argument that a lancer is severely disadvantaged by the lack of stirrups. This is not to say that any device that makes it easier to do



BELOW LEFT **This golden torque was found in the Kul Oba Barrow, Kerch, and is dated to 400–350 BC. The finials are both horse-mounted Scythians.**

BELOW RIGHT **Close-up of finial: the rider's position suggests the use of stirrups. The straps under his feet may be to do with his clothing, but given his seated posture could also be the first evidence of leather strap stirrups.**

one's job is not of value, but it is somewhat a matter of what one gets used to.

Being virtually brought up in the saddle, as nomad pastoralists have always been, in large part mitigated the absence of stirrups. For mounted archers, however, stirrups offered a distinct advantage, perhaps explaining why their use remained for so long restricted to the steppe. The extra stability, and the ability to rise to the shot, certainly enhanced accuracy. With the stirrup, as with the saddle mentioned above, steppe warriors can be seen to have been developing better ways of managing their mounts, and therefore increasing their combat potential. Steppe horse archers were the masters of mounted warfare, and they had, and introduced, the best types of horses and the best horse equipment for the job at any given time.

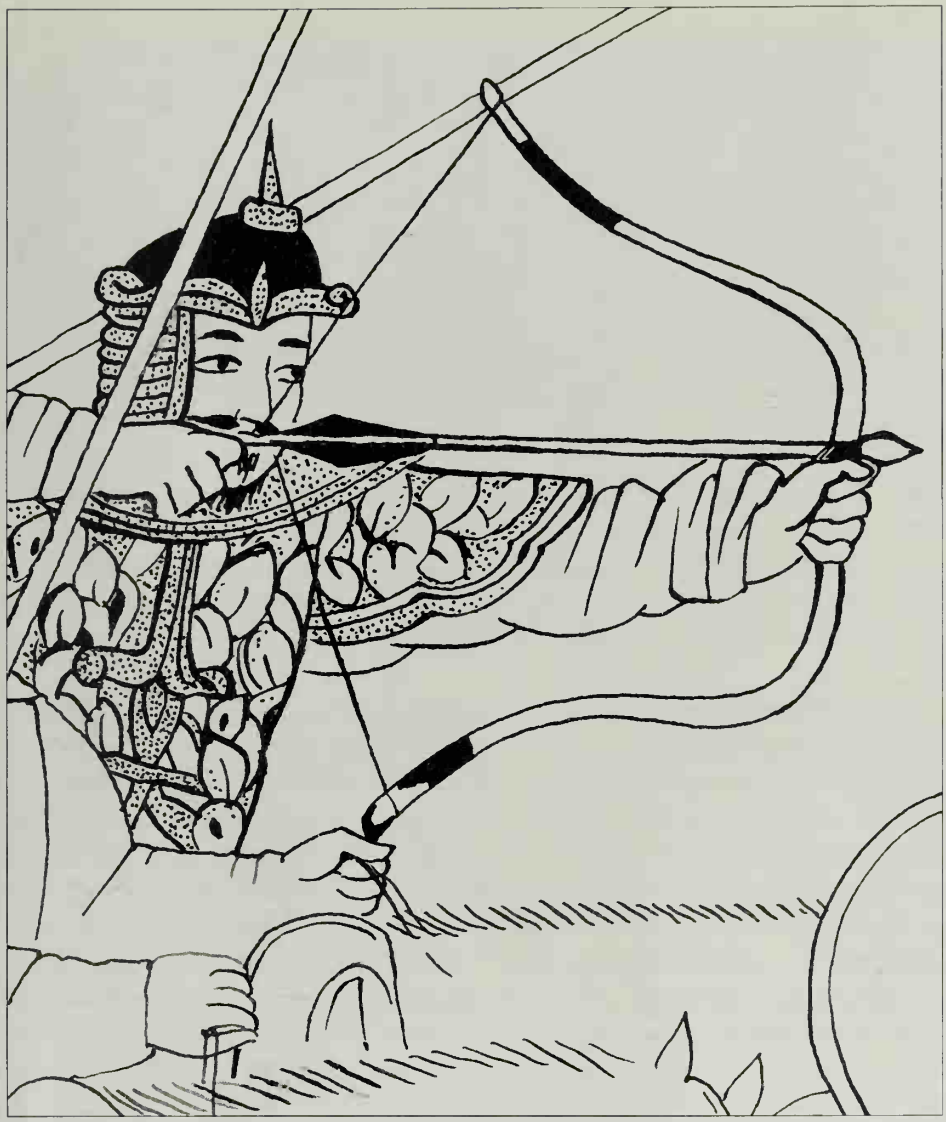
STEPPE WARFARE

Individual skills

> 'They sit low on the horse with the purpose of keeping the bow facing opposite the enemy and then turn the body sharply towards the enemy for the shot. But they always shoot upwards so that the arrow falls straight from the top down so that it has the maximum power, as he showed me by example together with the mathematical basis for this. When shooting he kept both eyes open, and he could count the time so precisely that when he shot the second arrow I could see a few times how the second almost touched the first and both arrows landed at the same time, close to each other.'

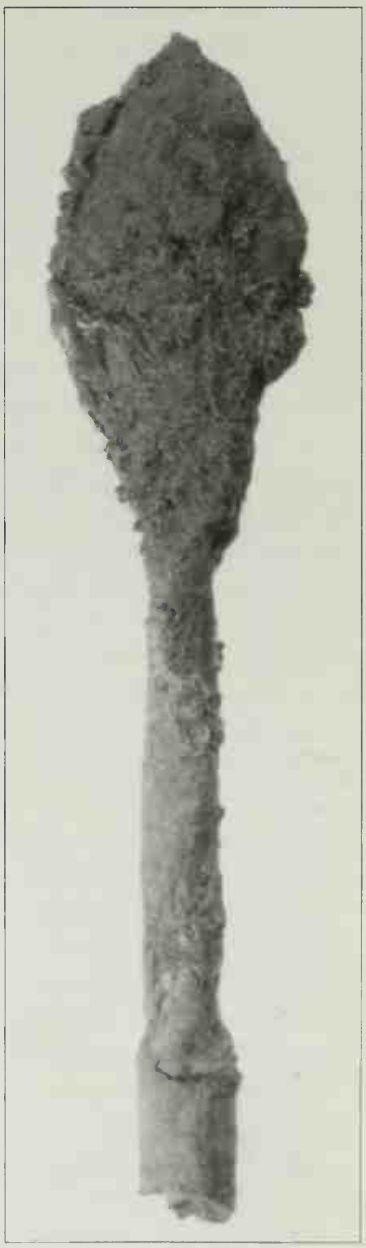
The mounted archer's skill was so described by Nicolaes Witsen, a 17th-century Dutch diplomatic visitor to 'Tataria'. Not surprisingly, it amazed many of those who faced the mounted threat from the steppe to see their skill, to watch them wheel and turn as a flock of birds, in unison, and meanwhile firing effectively with their powerful bows. This is likely where the Greek myth of the centaur came from, where man and horse operated as one, and it must have been an impressive sight. The mounted archer and his horse did operate as virtually one being. When firing the bow from horseback, the aim is considerably disrupted by the horse's movement and any roughness of the terrain, and therefore it is necessary for the mounted archer to loose his arrow only when the horse is in flight, that is, when all legs in full gallop are off the ground. Aiming is done instinctively, all the time allowing for the specific characteristics of the bow, the changing distances and activities of the enemy, and the horse's movements – to achieve accuracy under mounted conditions is truly a feat.

With bow and arrow, unlike with a modern firearm, simply aiming at the target will not do, and each shot is a carefully calculated exercise in physics and geometry (although clearly years of familiarity made this process instantaneous and natural). And at each shot the range will have changed, as will other variables, such as wind. After consideration of the arrow's qualities, the bow's specific characteristics, and having mastered



In this Persian miniature, a Mongolian mounted archer can be seen drawing his bow to his face. The most famous Mongolian anchor point was the shoulder, but this archer is aiming down the arrow shaft.

An example from an early Magyar (9th–10th century AD) grave of the hexagonal Hun-type arrowhead. (Hungarian National Museum; photograph courtesy of Tamas Hortsin)



the factors relating to aiming at moving targets while moving oneself, and not forgetting that warfare is adrenaline producing, there are the matters of controlling the horse, and performing as part of a team effort. A fault in technique at any distance will be greatly compounded by the time the arrow arrives at or near the target; so repetitive, precise expertise was necessary. With a lifetime's experience this was of course an intuitive process; nonetheless, that any effective success could be achieved is remarkable. The invention of the stirrup would surely have been a great boon to the horse archer, allowing even greater freedom of movement.

Mounted archery is in some ways like any archery, but in critical ways it is quite distinct. The mounted archer has to be not only the best archer possible, but also a superb horseman. When shooting from horseback, both hands are used in firing, leaving control of the horse to leg pressure alone. Any competent rider will naturally learn to do this to some extent, but few would be comfortable with releasing the reins entirely while galloping in and out of a battle situation – while also wielding complex weapons. The horse must be reliable, and the rider extremely competent. For most cavalrymen, losing the reins could be disastrous, but for the steppe archer, riding without reins was a practised skill needed in herding and hunting. When herding, the nomad might

This highly unusual item is a 1st-century BC Parthian archer's armguard. Made of grey steatite, the armguard is slightly curved and has four holes for affixing leather straps. It features a raised image of a bearded face on the front surface. (Photograph courtesy of Sands of Time Antiquities)

use the lance-like *urga*, which required both hands to manipulate (the *urga* is a long pole with a loop of rope on the end, used for catching a wild horse or other animal). The skills of hunting were also not substantially different from those of warfare – indeed it has been noted that 'their weapons in battle were the tools with which they rode to the hunt'.

Apart from being able to ride hands-free, another skill was the oft-noted ambidextrousness of the mounted archer. This helped in making the 'Parthian shot' from either side of the horse. This rearward shot is undoubtedly the most famous mounted archery technique of all. The technique was so named presumably after the Romans had come into contact with the methods of Parthian mounted archers, who being of Scythian stock themselves were master archers of the steppe type. The shot is taken while galloping away from the enemy, fired over the rump of the horse. This is achieved by twisting the upper body while simultaneously drawing the bow, and then firing to the rear, all in one fluid motion. Performing the Parthian shot is a difficult skill to master, and without stirrups was harder still.

To enable the bow to be more easily used on horseback it was usual for the horseman to crop his horse's mane, so it would not tangle with the *siha* of his bow, sometimes leaving some of the lower mane intact for holding on to, in lieu of reins. Clearly the short composite bow was an ideal weapon under these circumstances. The ready-strung bow in its *gorytos*, or other type of bow quiver, certainly made quick firing possible, as the bow was always 'loaded', and ready for use.

Group skills

These various abilities would hold the individual warrior in good stead; however, it is as a part of successful fighting groups that the steppe nomadic warrior was most well known. There are recorded descriptions of such armies in action, one of the best known being the battle of Carrhae (53 BC), in which Parthian light cavalry, using typical steppe methods, helped bring about the total defeat of a Roman army. (This battle is described in detail in Plutarch's *Life of Crassus*.) While the Parthian force did include 1,000 heavily armoured and quite formidable *cataphracti* (heavy cavalry, usually lancers), it was mostly made up of mounted archers, and it is they who made the defeat of the Romans possible. The mistakes of the Romans need not concern us, suffice it to say the Parthians took and kept the advantage once the battle began. As

This archer, from a Persian manuscript, is firing into a besieged city. He is using the most typical Mongolian draw, to the right shoulder. His bow is a good representation of the Mongolian bow.

the seven legions and assorted auxiliary forces under Marcus Crassus left their base at Carrhae they came under constant archery attack by groups of mounted archers riding up, firing, and wheeling away, still firing as they galloped off (see Plate C). The Roman light-armed skirmishers were able to do nothing, and the Romans had no mounted archers of their own to provide some kind of covering fire for legionaries. Things got desperate for the Romans, who were slowly being worn down. When Publius, son of the general, led a counterattack he was drawn into the most ubiquitous of all steppe cavalry tactics – the feigned retreat. Typically a steppe army would send waves of archers, moving rapidly in and out again, enticing the enemy to counter with an attack of their own. Not being able to come to grips with the enemy was very frustrating, while all the time being showered with arrows. Inevitably, even if the enemy's penchant for setting traps was well known, someone would take the bait and charge the mounted archers. The mounted archers would then apparently retreat, falling back rapidly. This would draw their opponents into a trap, for at the appropriate time the mounted archers would wheel back and surround the enemy. Sometimes the plan would involve horsemen hidden in wait, as happened to Publius. The Parthians on this occasion carried out the tactic perfectly, and Publius' force of eight cohorts, 500 archers, and 1,300 Gallic cavalrymen was reduced to only 500 surviving prisoners. The main Roman force now found itself obliged to retreat, the Parthians harassing the disordered Roman column mercilessly. Crassus was eventually killed, and of the 43,000 Roman troops that started out only 10,000 survived. This was a debacle for the Romans, and it was dealt them by steppe-style mounted archers.

Over time, many of those who had continuous experience of warfare with steppe dwellers adopted the methods themselves, from Europe to China. The Byzantines copied many of the methods and equipment of the steppe horse archer, and Anna Comnena gives a good account of the strategy of the feigned retreat used very successfully by the Emperor Alexius against steppe nomads, who perhaps did not expect such tactics from the Byzantines and so fell for it (Anna Comnena, *The Alexiad*, VII. 11). Earlier, Alexander the Great was also able to successfully use similar tactics against the Massagetae (Arrian, *Anabasis of Alexander*, IV.4).

What the Parthians dealt out to the Romans, the Persians too had experienced, many generations earlier, also at the hands of mounted Scythians. Herodotus (IV.118–42) reported that when the Achaemenid

This fragment of an artefact kept in the National Museum of Iran shows a Parthian archer. His tunic is very usual for the archers of the period. He is drawing his bow to his shoulder, which made Parthian archery more powerful than that of the Romans, whose archers drew to the chest.

Persian emperor Darius embarked on a large-scale raid into 'Scythia' in the 6th century BC, apparently to punish earlier Scythian raids into Persian territory, he was bested by a force greatly inferior in size. The Scythians sent their families in their wagons, with their flocks, away deep into the steppe, something a nomadic people could do easily, while the warriors remained in wait for Darius and his largely infantry army. In true steppe fashion, the Scythians did not give battle unless it suited them, instead harassing the Persians incessantly while keeping their distance. These harassing skirmishes took a regular toll among the Persian troops, and no less importantly, caused fatigue and demoralization. In a series of continual withdrawals punctuated by waves of fast mounted attacks on the slow-moving Persians, the Scythians denied the Persians any opportunity to come to grips with them in close combat. Finally Darius was forced to retreat, and only his Scythian pursuers missing his army in the night and the expanse of the steppe saved him from the kind of disastrous withdrawal Crassus would later experience. But for this fluke Darius' army may not have made it off the steppe at all, and as it was he left a great many dead behind without ever having come close to the pitched battle he wanted.

The horse archers' mobility, deadly arrow showers, well-developed cavalry tactics, and rootless nature made them difficult enemies to handle on the battlefield. They would also take every opportunity to enhance their terrifying image – Ammianus Marcellinus wrote of the Hun as attacking while making savage noises. Ammianus further says that the Hun were considered the most terrible of warriors because they fired deadly missiles from a distance (Ammianus, XXXI.2.9). He described them as apparently chaotic, but extremely deadly:

> 'As they are lightly equipped for swift motion, and unexpected in action, they purposely divide suddenly into scattered bands and attack, rushing about in disorder here and there, dealing terrific slaughter; and because of their extraordinary rapidity of movement they are never seen to attack a rampart or pillage an enemy's camp.' (Ammianus, XXXI.2.8)

The Hun in the 5th century AD gained an impressive reputation by their fierce, some thought inhuman, raids. They were frequently bought off with payments of Roman gold – not difficult to do, as they raided principally for plunder. Hun conflicts with the Romans were for the most part a series of large-scale raids. These raids ravaged whole eastern

provinces, but rarely involved outright set-piece battles with Roman forces – the battle of the Catalaunian Fields, in which Attila was soundly bested, being the most important exception. In fact, a war with a nomadic steppe people involved both small-scale actions and large-scale battles. The usual method for a steppe army was to have many small units riding out at the enemy and delivering withering missile fire, perhaps in many locations, apparently uncoordinated and in no real force. These small attacks and raids would conceal the true intentions and whereabouts of the nomads' main forces, and cause confusion in enemy ranks and communications. The apparently uncoordinated groups, however, could re-form into larger bodies with amazing rapidity, skill, and discipline. In the 13th century AD, the Mongols behaved in much the same way, and believed that even before battle they should always 'march divided, attack united'.

The Mongols fielded a particularly disciplined army, although it is fair to assume that earlier armies were at least as disciplined, if not as well organized. The army ran on very strict rules, and those in command of each unit expected, and received, full, disciplined loyalty. As the steppe peoples were tribal in structure, allegiance was a matter of recognizing the dominant individual, unless powerful enough to make a challenge. It was considered the norm in the cultural framework that had developed over many centuries that a leader strong enough to be respected should receive unequivocal loyalty, so long as he remained powerful and successful. This translated in the field to there being no question of authority or obeying orders, and meant that nomadic armies had considerable coherency, when at war, operating to the plan and orders of the leadership.

This Parthian archer, from the British Museum, has the all-in-one bow and arrow quiver (called a *gorytos* by the Greeks) typical of the Scythian peoples to this time. This example has a built-in dagger sheath. (Photo © Edward C.D. Hopkins, http://parthia.com, 2001)

The Mongol use of the steppe tactics of reconnaissance in depth, mobility, speed of attack, feigned retreat, and ambush could be used on any scale, whether in small unit actions or where several armies coordinated together. When Subedei and Jebe, two of Genghis Khan's ablest generals, were on a reconnaissance in force into the western steppe they encountered several Georgian armies. The last pitched battle started in typical fashion, with the army of King George IV riding out from Tiflis in pursuit of Subedei and his force. Subedei withdrew into a mountain pass, where Jebe waited in ambush with 5,000 horsemen. However, the Georgian king kept his troops out of arrow range in the pursuit, and entered the pass in tight formation. The original Mongol plan was apparently being thwarted by the Georgians' maintenance of control – they clearly understood the Mongols' tactic. But then, in a classic steppe manoeuvre, when the Georgian column

An arrowhead of unusual design, found in Hungary and dating from the early Magyar period, 9th–10th century AD. (Hungarian National Museum; photograph courtesy of Tamas Hortsin)

turned to face Jebe's ambush, Subedei's force turned on their flanks and routed them. There were subtleties to what at first appears to be a simple tactic, the false retreat and ambush, and the separate groups of Mongolian forces were able to act in unison even when the situation was changing in unexpected ways.

This flexibility was used to advantage time and time again by the Mongols. In AD 1223, the Mongol forces under Subedei defeated a mixed army of Cumans and Russians by dividing their enemy, even though the Cumans were also a steppe people and knew steppe warfare well. When the Cumans and some of the Russian forces were ordered to attack the Mongols, they were met by waves of mounted archers galloping across their path, and the concentration of arrows soon opened a gap between the Cumans and the Russians. The Mongol archers faded away, to be replaced by heavy Mongol cavalry, who exploited the gap and sent the Cumans into retreat. The main Russian body behind separated to let the Cumans through, and into this second gap the Mongols continued their charge. The now disorganized Russian army, under the Prince of Chernigov, soon found itself surrounded, and the target of mounted archers and charges by the heavy cavalry. Some 40,000 Russians died, the rest went into a frenzied retreat, pursued by the Mongols. Later, after a 150-mile (240km) chase, the Mongols surrounded the Russians' fortified camp, besieging and eventually slaughtering them.

It has often been said that siege warfare was a weakness of the steppe nomads. This might appear to be so, as few examples of successful siege craft have been relayed to us by the chroniclers of the day. However, as the above example shows, there were opportunities for siege warfare, and the nomads often won. The Mongols on this occasion had no Chinese engineers with them, but it was typical of Mongol armies that such professionals were on hand. Even without them Mongols were, like their steppe predecessors, an imaginative and determined foe. Enough examples exist to show that steppe archers could in fact undertake successful sieges – so why do we hear of so few such battles? The answer is fairly simple – as was seen by Darius in the 6th century BC, steppe cultures were not tied to the land. If not a strategic necessity, steppe warriors would see no point in wasting time sitting outside fortified walls. They could always keep their enemy locked up behind their defences, and command the countryside. Rather than developing siege skills – something better suited to an infantry-based army – it was their mobility that they expanded on, developing instead skills such as lightning raids, multi-pronged attacks, and long-range reconnaissance.

Reconnaissance was always a feature of steppe warfare, a skill at which the Mongols excelled. Being fast and highly mobile meant that scouts, either alone or in small groups, could report back to their commanders the whereabouts, activities, and numbers of their enemy,

without their foe even knowing they had been watched. This skill was used by the Scythians against Darius, and in like manner by Subedei many centuries later. Whereas the Mongols exceeded previous armies in this activity, due to their greater discipline and training, it was a steppe skill learned over millennia by all nomads, as a part of warfare and other steppe activities such as hunting.

It is important to note that all members of a pastoral nomadic society participated in the mobile lifestyle, and in all the efforts to maintain life, and so all were equally proficient in those skills that translated well to warfare. It helped steppe warfare considerably that every nomad with a horse was a potential front-line warrior – and this also could include women. By comparison, only a small number of settled populations were ever trained and equipped for war.

Women are reported to have been warriors in some of the early steppe nations. Some Scythian, and even more so Sarmatian, women went to war with their men, causing in all likelihood the creation of the myth of the Amazons. Like their menfolk, they were prepared for this kind of experience by their lifestyle, for while the men were off raiding or hunting, the women took care of the herds and homes. It was necessary for them to know the use of weapons, to protect themselves and their herds, and they also developed all the same skills as the men. Perhaps it was optional for women to join their men in war in these particular societies, and some percentage always chose to do so. In any event, war for the nomads was clearly considered a nationwide activity, and even if not actually going to war the women of most steppe tribes knew weaponry well enough, and were just as good horse riders as their menfolk. To this day Mongolian women are among the country's best archers and riders.

This expert 'man-power' was valuable when coupled with mobility, for mobility can win wars, and the lack of it can lose them. All examples of note regarding steppe success against more sedentary foes shows this mobility at the core of that success. Mobility is the hallmark of cavalry, and in the hands of expert mounted warriors, an extremely effective tool of war.

In situ **sabre and sword belt, from an early Magyar warrior's grave (9th–10th century AD). This hilt design was widely used by the Magyar. (Hungarian National Museum; photograph courtesy of Tamas Hortsin)**

NOMADS AND THEIR NEIGHBOURS

The 'history' of the different steppe peoples was written not by themselves, as the steppe peoples were illiterate, but by their neighbours. For the Chinese, whose northern and north-western borders were the wild lands, the steppe peoples were 'northern barbarians', and they lived their barbarous lives in Manchuria, Mongolia, Sinkiang, and Dzungaria. The chroniclers of Central Asia and Europe knew them as a scourge from the east, and most of the events the classical writers recorded regarding the steppe peoples occurred in the grasslands of the Hungarian plain, Transylvania, parts of Bulgaria, and in the vast and unknown Ukrainian and Russian steppe. For the classical Greeks, the nomadic peoples of the Pontic steppe played a particularly large part in Greek–nomad relations, being that area of the steppe that touches the northern Black Sea coast, home to many thriving Greek colonies.

The Chinese built several walls, including the Great Wall, to keep nomadic steppe archers out. Along their northern borders there were also garrisons, and watchtowers. This Eastern Han Dynasty (AD 24–220) glazed ceramic held in the National Gallery of Australia shows a multi-storey watchtower, complete with crossbow-armed soldiers. (Author's photograph)

The Romans encountered nomadic hordes in Hungary, Romania, and Bulgaria, so did the Byzantines in these places, as well as in the Caucasus region, Armenia, and Anatolia. For the Persians, on the other hand, the often troublesome nomadic hordes came from their north and north-east, from the steppe lands south of the Ural mountains (modern Kirghizstan and Kazakhstan), and from modern Afghanistan and Tajikistan. The Persians themselves had once, long before, migrated from the steppe, and throughout history they maintained links with the peoples who dwelt there.

The relationship between the steppe nomads and those sedentary societies on the periphery of the steppe has been at times one of peaceful trade, but just as frequently one of violence, of raiding and warfare. The steppe lands offered prime grazing for large herds of horses and cattle, and the nomads could be wealthy in livestock, and the produce thereof. The oasis cities of Central Asia and the farming communities bordering the far western and the far south-eastern steppe were often very productive centres, where food was grown and collected, and where produce for trade, such as metalwork, ceramics, and cloth, was created. The distinct communities came to be reliant on each other, and trade was the first principle of contact

LEFT & BELOW **This 'barbarian' rider, depicted on a Tang Dynasty (AD 618–907) ceramic held by the National Gallery of Australia, shows several features of the nomadic archer. He has an unstrung bow in a soft bag at his left side, a soft pointed hat, and his sleeve is down to allow easy use of his bow. In the close-up, (left), the shape of the rider's hat is clearly visible, as is his hourglass-shaped quiver. To the Chinese a northern 'barbarian', he clearly has Indo-European facial features. He may be a Tocharian, who lived to China's north-west. (Author's photograph)**

between the different lifestyles of nomadic and settled peoples.

Intertribal warfare was certainly common, but steppe conflict has most impacted on the human history of Eurasia at the interface of settled and mobile existences. The nomads could not produce all they needed from their animals, and they needed to trade with the farming and industrial centres they encountered – however, at times they just came and took what they wanted. It is for this reason that the Chinese were compelled to build a series of extremely extensive and costly walls, designed to deny horsemen free access to China's rich northern plains. The Sassanian Persians likewise built the defences of Derbent to prevent identical steppe incursions into the Middle East.

The effect of the nomadic warriors on the Western, Middle Eastern, and Chinese peoples was very far-reaching, including most obviously the areas of horse breeding, archery equipment, and mounted warfare, but also the wide adoption of nomadic dress styles, the spread of steppe traditions and cultural features, and the travel of exotic trade goods over vast continental distances. While the nomad and sedentary interface was often very problematical, it

is also true that it was very energizing culturally and militarily, leading to many later developments such as medieval cavalry warfare.

The 'barbarian hordes' were a historical reality, from the point of view of settled civilizations, but so too were the trade and cultural exchanges that occurred every day for millennia. It is easy to see the raiding nomadic mounted archers as predators and barbarians, but the truth is more complicated. Their lifestyles were complex, efficient, and dynamic, and ultimately it can be said that they left more of value than they ever took.

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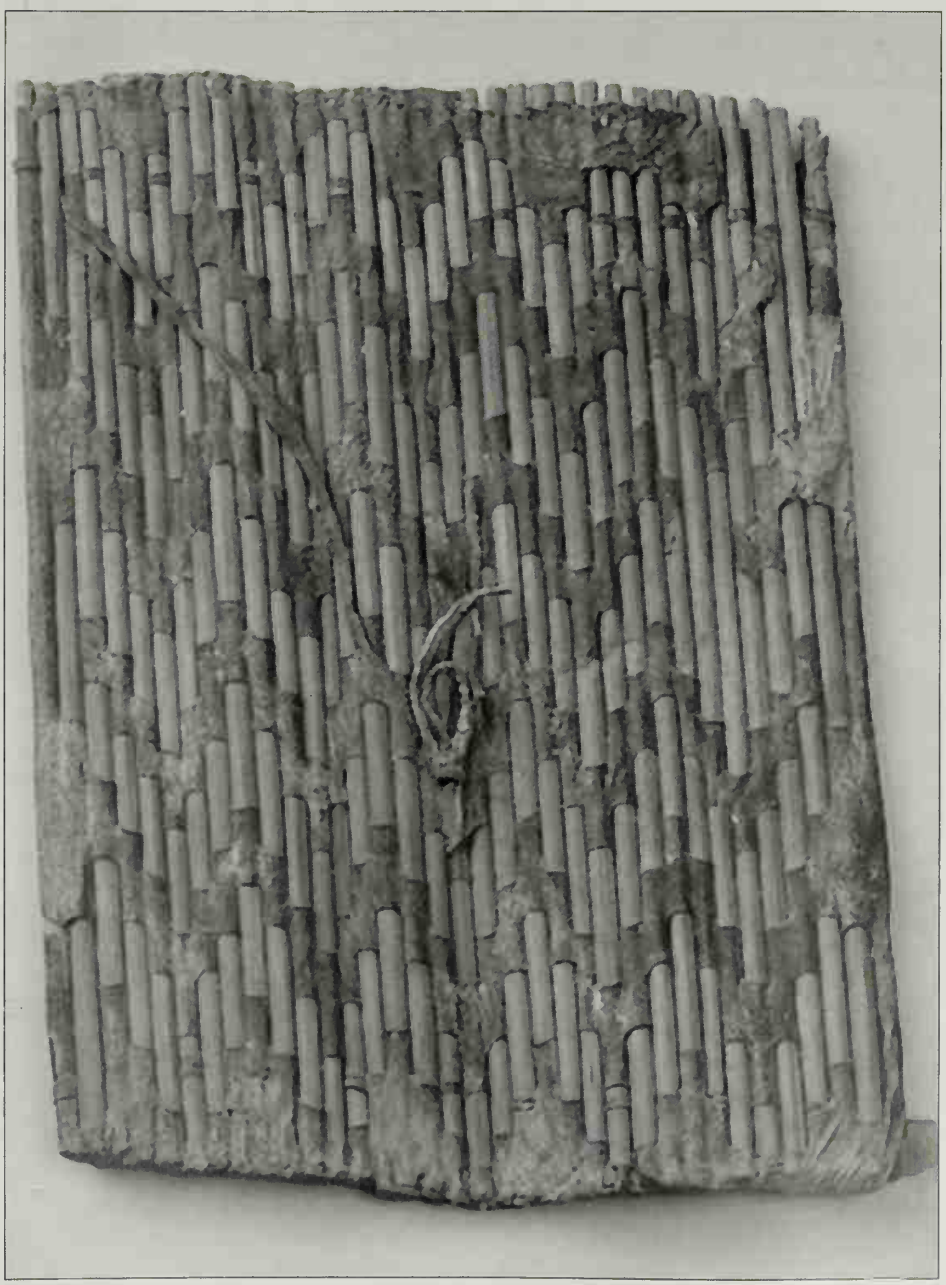


This 5th-century BC Scythian wood and leather shield was found in a barrow at Pazyryk, Siberia. Alternate rows of the wooden rods have been dyed red, and the leather is purplish in colour. (Photograph courtesy of the State Hermitage Museum, St Petersburg)

PLATE A: SCYTHIA, 6TH CENTURY BC

A Scythian warrior out hunting has run into two warriors from a rival group. Such skirmishing gave steppe warriors valuable experience for times of war.

A1: Scythian archer

This Scythian archer is preparing to fire using the 'Parthian shot' – shooting behind him as he rides. This technique was common to all steppe archers. He is wearing the typical Scythian outfit of loose jacket, embroidered trousers, and ankle-length boots. He has a *gorytos* two-in-one quiver for both bow and arrow. His horse is the small Przewalski pony, a common breed much used by nomadic archers. He is tattooed, as was common among Scythians. (Main sources: figures on several metallic vases and a golden comb found at Kul Oba, Crimea, held in the Hermitage State Museum, St Petersburg; and tattoo from the remains of Scythian warriors found in Pazyryk barrows, southern Siberia.)

A2 and A3: Scythian warriors from rival group

The two pursuing riders are dressed and equipped much like **A1**. Material culture did not vary much between different Scythian groups, and the methods of making or obtaining basic equipment remained much the same for all Scythians.

PLATE B: SCYTHIA, 5TH CENTURY BC

A Scythian nobleman talks to the lady of a herding camp. Visitors were rare to herding camps, and it was usual steppe custom to offer food and water.

B1: Scythian nobleman

The Scythian nobleman is wearing a suit of leather lamellar armour and is carrying a Greek helmet. Greek equipment was a regular trade item for Scythian warriors. His sword and dagger are of the *akinakes* type. (Main sources: armour from a Scythian leather lamellar armour held in the Metropolitan Museum of Art, New York; the *akinakes* is from an example held by the Hermitage State Museum, St Petersburg; the Greek helmet from examples found in Scythian barrows.)

B2: Scythian warrior

This Scythian warrior is taking a chance shot at a rabbit. He wears an imported Greek linen cuirass, a Scythian soft, pointed hat, and wears an *akinakes* short sword. His *gorytos* is faced with a cover plate of bronze. (Main sources: an iron dagger from southern Siberia and a *gorytos* facing plate, held by the Hermitage Museum, St Petersburg; the Greek armour and moon-shaped shield are from a golden comb, also held by the Hermitage State Museum.)

B3: Scythian woman

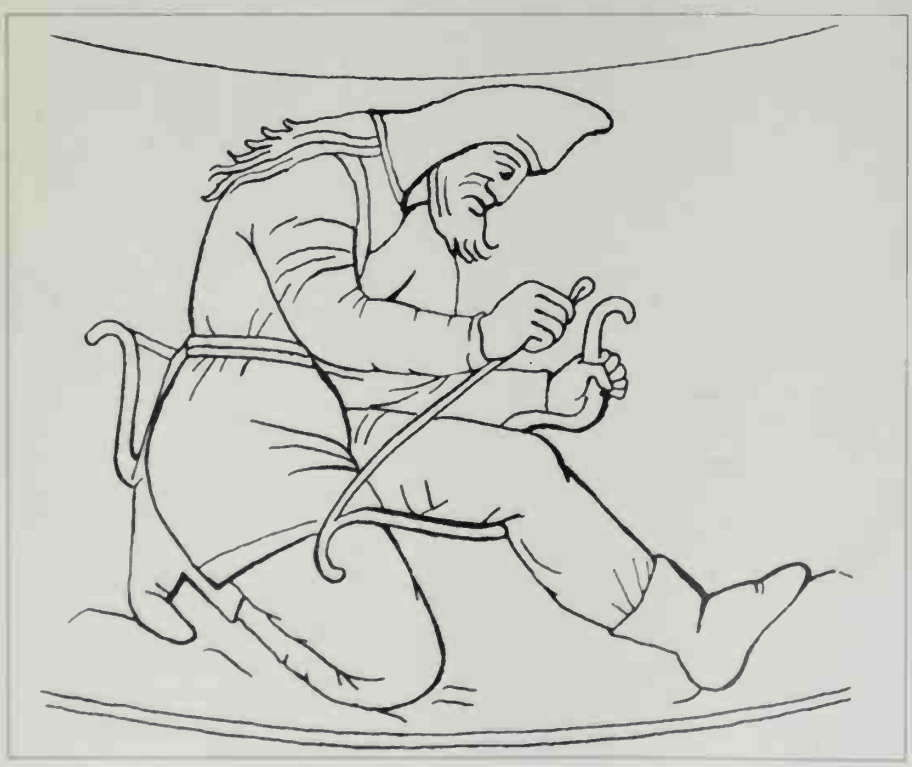
This Scythian woman is based on illustrations of Scythian women found on decorated Greek vases, and the footwear and clothing of a woman from a *kurgan* barrow in Siberia. Although this woman's outfit is of a female design, Scythian women often wore clothing not dissimilar to that of their menfolk. Her necklace has as its central piece a cowrie shell, an item of great value for the land-locked Scythians. Like all Scythian women she carries a bronze mirror at her side.

PLATE C: PARTHIA, 1ST CENTURY BC

This is a scene from the battle of Carrhae in Parthian Mesopotamia, 53 BC, in which several legions under the Roman Proconsul for Syria, Marcus Licinius Crassus, were almost totally annihilated by a Parthian army under the leadership of Surena. Surena led an army largely made up of Saka horse archers and other steppe mounted warriors. Though 1,000 heavy *cataphracti* were present, they were hardly used, and the battle was won almost entirely by the mounted steppe archers.

This scene depicts one of the methods used by the mounted archers of Surena's army. Forced into a defensive square, Crassus' legions were harassed for many hours as Surena's archers rode around the square discharging tens of thousands of arrows. Here we see three archers riding up to the square, across the front for a few yards, and then back to their rear, firing at the Romans the whole time. A number of these rotating 'swarms' of archers attacked the legions on all sides.

The three archers are at the different stages of the drawing and shooting action: the figure on the right has just loosed his arrow, the central figure is nocking an arrow, and the left figure is about to release his arrow.



This Scythian is stringing his bow, a difficult task given the power of the bow. The image comes from an electron vase found in a burial mound in Kul Oba Barrow, Kerch, Bosporan Kingdom, dated to 400–350 BC.

The equipment of the Parthian mounted archer was similar to the Scythians – not surprising as they were related peoples. The long swords slung from a separate belt are now more common, as was also the case at this time with the related Sarmatian peoples. (Main sources: figure of a Parthian mounted archer in the Staatliche-Museum, Berlin; two figures of Parthian archers in the British Museum; and several figures of Parthians and various archaeological finds in the National Museum of Iran.)

PLATE D: HUNS IN EASTERN EUROPE, 5TH/6TH CENTURY AD

D1: Hun warrior

This Hun shows the features that made these people seem so alien to those they fought – distinctively Mongoloid features and a heavily scarred face. His horse is a scruffy but remarkably hardy steppe pony. He wears a kaftan-like coat, with long sleeves for keeping hands warm in winter. He has separate bow and arrow quivers. His bow features a *siha* attached to each limb, made of horn, bone, or wood. The Hun bow was reputedly able to shoot arrows through armour. (Main sources: a bronze plaque from the Ordos region; and Hun clothing and various archaeological finds held in the Hermitage Museum, St Petersburg.)

D2: Hun officer

The Hun had mostly given up herding for full-time raiding, and accordingly the elite among the Hun often managed to accumulate much material wealth. This Hun officer has fur-lined hat and coat, well-made leather boots, and heavy silk leggings. His equipment is expensive, and would typically feature quite a lot of gold ornamentation. (Main sources: Chinese scroll art depictions of the Hun; Hun clothing held in the Hermitage Museum, St Petersburg.)

D3: Germanic warrior

The prisoner is a Germanic warrior equipped in the gear of an auxiliary Late Roman Army soldier. He has dropped his spatha long sword. His helmet is of *spangenhelm* construction. (Main sources: helmet from the Rijksmuseum van Oudheden, Leiden; tunic from an example in the Stadtisches Museum, Trier.)

PLATE E: AVARS IN THE BALKANS, 7TH CENTURY AD

Two Avar warriors and a Slavic conscript are leaving camp on a raid. The camp features a typical felt steppe tent, and fireplace. For the first time we start to see stirrups in regular use.

E1: Avar nobleman

Avar nobles, like their Hun counterparts, were often wealthy,

This 5th–4th-century BC gold belt buckle, from the Sakae Culture of western Siberia, shows horses of Przewalski type, a simple pad saddle, and the two-in-one bow and arrow quiver (a *gorytos*) typical of the Scythian peoples. (Photograph courtesy of the State Hermitage Museum, St Petersburg)

and were known for luxuriously decorated equipment. This wealthy Avar warrior has an elegant long sword, a belt with gold plates, an elegantly equipped horse, and matching bow and arrow quivers. (Main source: double belt and accoutrements from the grave of an Avar chieftain excavated in Hungary; sword, stirrups, and belt fittings from the Hungarian National Museum.)

E2: Avar warrior

This Avar warrior is equipped in a similar way to his superior, but is clearly less well off. He has a simple iron sword on a separate belt, and is wearing an old Hunnic helmet. He wears simple iron plate shin guards. His archery equipment, however, is of good quality. (Main source: shin guards from a gold plate in the Kunsthistorisches Museum, Vienna; belt and quiver fittings from the Hungarian National Museum.)

E3: Slavic peasant

This Slavic peasant conscript is dressed in typical pre-Christian 'pagan'-style embroidered wool clothing. His shoes are made of birch bark, and his leggings of wool. He is armed with a typical Slavic knife, a simple spear, and a plain iron helmet. (Main sources: knife from the Hungarian National Museum; clothing from early Russian silver bracelets.)

Saddles of this type are believed to have had their origins among the Avar. This example is possibly from the 10th–14th century AD. Such high saddles were known across the steppe, also appearing in Chinese art. (Hungarian National Museum; photograph courtesy of Tamas Hortsin)

PLATE F: TURKIC WARRIORS ON THE STEPPE, 8TH CENTURY AD

Two Turkic warriors have just completed a raid on a steppe settlement, taking a woman captive. 'Bride snatching', whereby a warrior kidnapped a woman he wanted as a wife, was a common activity in many steppe cultures, although the womenfolk may not necessarily have agreed with the practice. This custom was one way to ensure genetic exchange in steppe cultures where isolation from others was typical. It was also a chance for young warriors to prove their prowess.

F1: Turkic warrior

This rider is preparing to shoot at a fairly extreme elevation so his arrow will fall down onto his distant pursuer – a special skill of the steppe archer. He is dressed in the simple, practical way of steppe dwellers. He has an hourglass arrow quiver, a strung bow in its own quiver, and a second unstrung bow in a soft bag. (Main sources: coat from an example in the Hermitage Museum, St Petersburg; hat from a Chinese terracotta figurine held in the Australian National Gallery; equipment from a figure on a wall painting in the city of Old Samarkand.)

F2: Turkic warrior
This rider is equipped similarly to his companion, however he has a more refined breed of horse, possibly showing influences of Central Asian breeds such as the Akhal-Teke. The saddle has high pommels at front and back. He is wearing a straight long sword and carries a coiled lasso attached to his belt. (Main source: a Chinese relief held by the Philadelphia University Museum; saddle from a Chinese terracotta figurine held in the Victoria and Albert Museum, London.)

F3: Steppe woman
The dress of this typical steppe woman is in most respects identical to that of the men. Her coat buttons up inside high on the right side and outside on the left shoulder and under the arm – buttons were typically made of wood or horn.

PLATE G: MONGOLS IN THE MIDDLE EAST, AD 1220

G1: Mongolian heavy mounted archer
This Mongolian heavy mounted archer is wearing an extensive leather lamellar armour, spiked helmet, and undercoat of heavy silk. He has a surcoat to help keep his armour from getting too hot in the sun. He is using a Mongolian bow, which has its *siha* set at the most extreme angle of all steppe bows. A cord runs from the reins to his wrist to prevent him losing control of his horse whilst firing. (Main sources: Persian miniatures; armour after a Tibetan example of similar type held in the Tower of London.)

G2: Mongolian light archer
This Mongol light archer is a skirmisher and scout. Unlike the professional military individual in Figure **G1**, this individual seems to have come straight off the steppe, although his outfit is the colour required by the Mongol army. He is riding a Mongolian Pony, a close cousin to the Przewalski. (Main source: figure in a Chinese Ming Dynasty painting; coat from an example in the Hermitage Museum, St Petersburg.)

G3: Persian foot archer
This fallen Persian foot archer wears a type of helmet that is frequently depicted in contemporary artwork, a heavy linen over-tunic, and a silk shirt. His composite bow is of a refined Persian design. (Main source: a contemporary drawing in the British Museum; various Persian miniatures.)

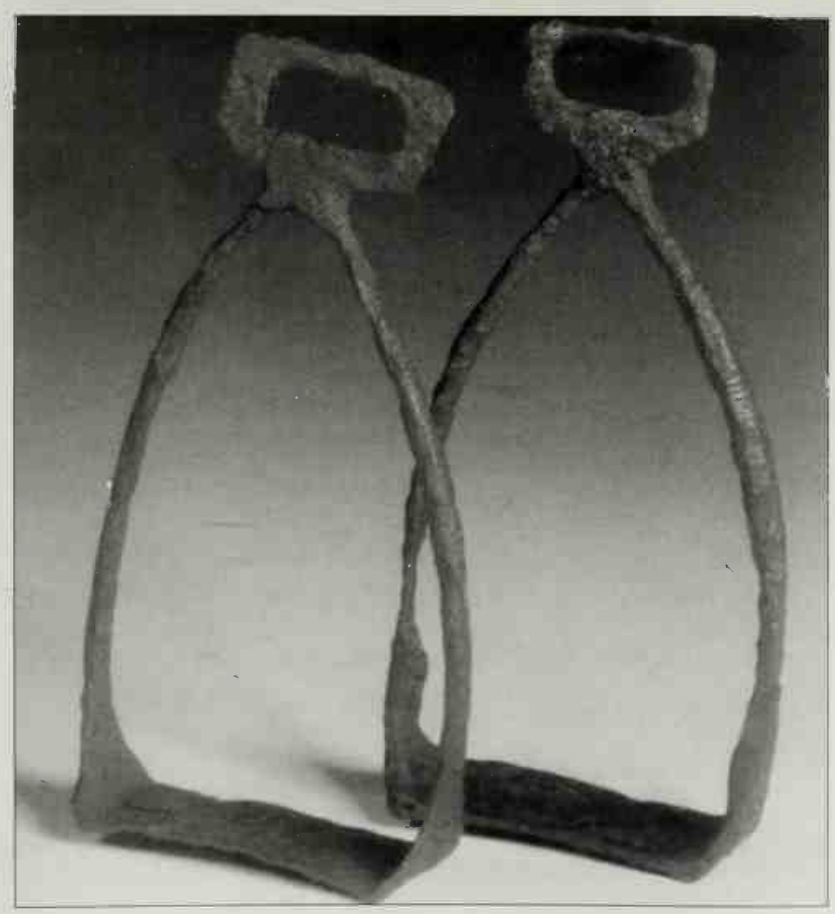
PLATE H: SELJUK TURKS IN ANATOLIA, 13TH CENTURY AD

This scene is of an archery duel in Anatolia between two Seljuk Turkish raiders and the Cuman mounted archer they have surprised. Also a steppe people, many Cumans fought as mercenaries for the Byzantines.

H1: Seljuk archer
This Seljuk archer is wearing a lamellar cuirass over a linen tunic, baggy trousers tucked into knee-length boots, and a pointed helmet. He carries a long sword of Iranian style. (Main sources: figures in the manuscript *Varqeh va-Golashah* by 'Ayyuqi; a figure on a bronze basin held in the Victoria and Albert Museum, London.)

H2: Seljuk warrior
This Seljuk warrior is dressed in a more Arab Muslim-influenced style. His clothing is looser and more richly patterned than his companion. His boots are held up by straps attached to an inner belt. He has a curved sword hanging from two suspension points. This man is using a modified 'western' draw, using two fingers, rather than the more usual thumb draw of the typical horse archer. (Main sources: a figure in a 13th-century Persian manuscript held in the National Library, Vienna; a figure in an Arab manuscript held by the University Library, Edinburgh; a figure from a glazed 13th-century Seljuk bowl held in the Metropolitan Museum of Art, New York.)

H3: Cuman warrior
The Cuman is firing behind him as he rides, making as small a target of himself as he can. He is wearing a mail shirt under his coat. His conical fur-edged felt hat is a typical item of Cuman clothing. His sword is broad and slightly curved. His bow is typical of the Tatars and other Turkic people on the Russian steppe. (Main sources: painting on a church wall in Rimavska Bana, Slovakia; Turkish miniature held in the Topkapi Museum, Istanbul; sword from an example in the Hermitage Museum, St Petersburg.)



Simple iron stirrups (9th–12th century AD). Before the use of iron for stirrups bronze, wood and leather were common. (Hungarian National Museum; photograph courtesy of Tamas Hortsin)

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